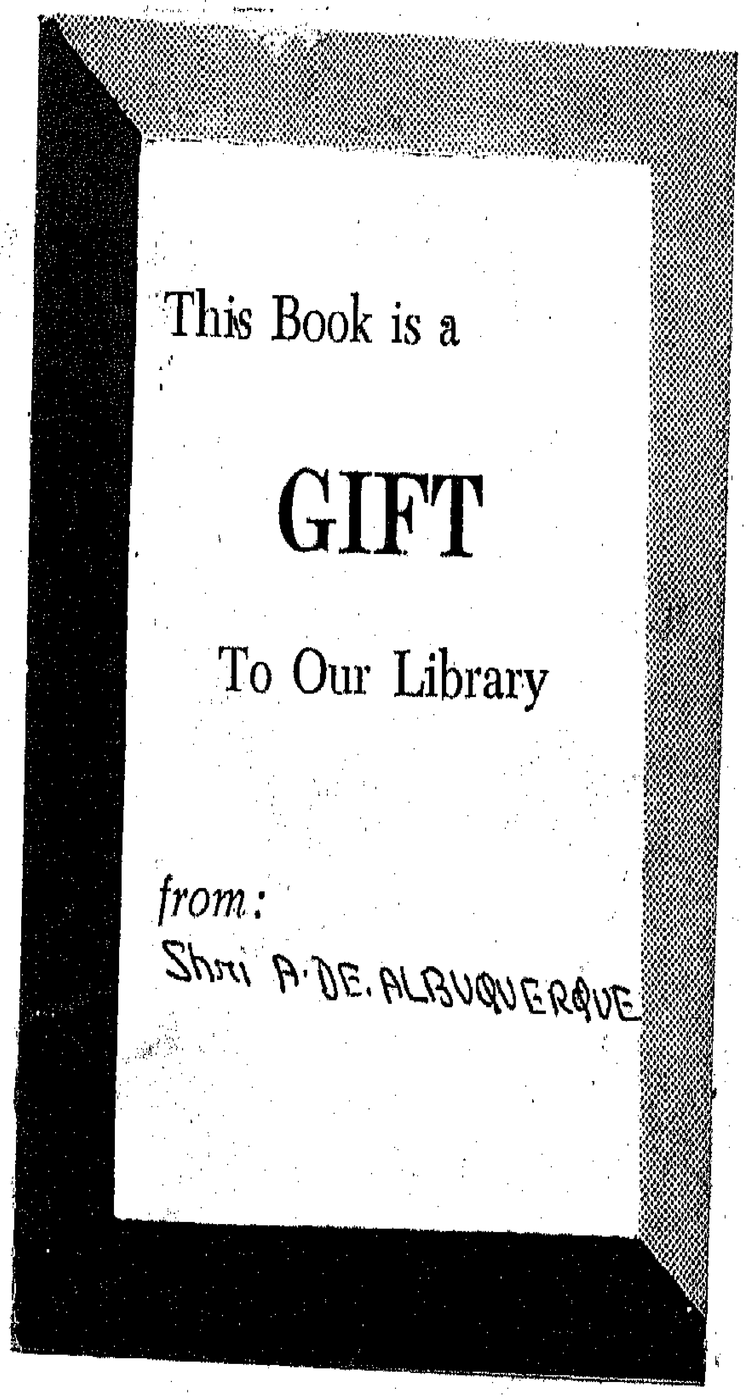


ABOUT THIS BOOK

In This Book the psychosomatic approach of Hathayoga to personal problems of man is interpreted with a view to evolving a simple, scientific and methodical course of study. The book is used as a text at the Academy of The Yoga Institute—a specially recognized Training Institute of Yoga in India. It discloses the ancient technique in the light of modern sciences.

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YOGA SIMPLIFIED

TO

YOGĪŚVARA PARAMAHAṀSA MĀDHAVADĀSAJĪ

H A Ṭ H A

YOGA SIMPLIFIED

BY

SHRI YOGENDRA

FOUNDER-PRESIDENT OF THE YOGA INSTITUTES IN INDIA AND AMERICA, EDITOR OF THE SCIENTIFIC YOGA SERIES, YOGA STUDIES AND ILLUSTRATED JOURNAL, YOGA, ETC., ETC.

WITH A PREFACE

BY

JOHN W. FOX, A.B., M.D.

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INTRODUCTION

AMONG the various traditions of—the paths leading to—Yoga, Haṭhayoga is one. The necessity for this system of Yoga must have been felt in the ancient past when the discipline and education of the physical became an essential form of discipline and control of the mental, the moral and the psychic. In this context, Haṭhayoga should be and is regarded as the primal yoga effort,[1] which gradually came to be recognized as the methodical approach to the attainment of the highest in Yoga.[2] Because it deals primarily with the physical, the human body, in relation to the mental, it has been appropriately identified as the physiological Yoga or *ghaṭasya yoga.*[3]

Haṭhayoga thus accepts Man for what he really is and therefore does not neglect the physical. It recognizes the concept of the wholeness of Man and proposes to achieve psychosomatic sublimation through a system of physical culture which *inter alia* includes physical education, hygiene, therapy, and biologic control of the autonomous nervous system affecting the hygiene of the mind and moral behaviour.[4]

To begin with, the postural exercises (*āsana*) which it advocates have already been fully discussed in one of the volumes of this series,[5] suited especially to men and women.[6] Personal hygiene which follows next has been simplified for daily practice in yet another volume of this series, and deals exhaustively with the care of the various parts of the body and some of the

1 Cf. *Yoga Physical Education*, by Shri Yogendra, 7th Edn., pp. 49f.
2 Cf. *Yogasūtra*, II, 29.
3 Cf. *Gheraṇḍasaṁhitā*, 1,2,8ff.
4 Cf. Refer to the diagram in *Yoga Physical Education*, 7th Edn., p. 37.
5 Cf. *Ibid; Yoga Āsanas Simplified*, Pocket Edition.
6 Cf. *Yoga Physical Education* (women), by Smt. Sita Devi, 3rd. Edn..

vital organs.[7] For example, the care of the teeth, mouth, tongue, ear, and the air sinuses could be effected through *dantadhouti*, *jihvāmūlaśodhanam*, *karṇadhouti*, *karṇarandhradhouti*, *vātakrama kapālabhāti* and *kapālarandhradhouti* respectively. The care of the nose consists in the practice of *vyutkrama* and *śitkrama jalaneti*. For the eye, there are the various forms of fixations (*trāṭaka*) such as *nāsikāgra*, *bhrūmadhya*, *dakṣiṇajatru*, *vāmajatru*, *candradhyāna* and *sūryadhyāna*. The care of the stomach and other digestive organs is effected through *vamanadhouti*, certain specific *yogāsanas*, the process of prāṇāyāma known as *plāvinī*, and the intra-abdominal compression through *uḍḍiyāna bandha*. The care of the lower section of the alimentary canal, chiefly the intestines, is made possible through suitable posture-exercises such as *pavanamuktāsana*, *sarvāṅgāsana*, *śirāsana* and *dhanurvakrāsana*, besides intestinal activation and cleansing with the aid of *śaktićālanamudrā*, *uḍḍiyāna bandha* and an enema with uḍḍiyāna in imitation of *basti*.

Most of the above practices constitute purely physical aspects and contribute to positive health of these organs so that higher purification and control of the more vital organs may become easy. Thus the cleansing of the mouth, tongue, nose, air sinuses and throat provides for the essential hygienic coördination during progressive efforts at regulation and control of the respiratory acts involving psychosomatic affects on emotional imbalance and mental turpitude. The fixations have the effect of relaxation, poise and abstractness since vision and mind are closely related. The care of the alimentary canal reduces toxicity and keeps the nervous system unaffected by physiological factors. These preparatory studies in their turn help sexual sublimation through relaxation, elimination of tensions and channelling of impulses.

7 Cf. *Yoga Personal Hygiene*, Vol. I, 9th Edn.; *Yoga Hygiene Simplified*, Pocket Edition.

It is an established fact that the psychic and moral life of an individual is greatly influenced by cogenitally born drives such as the sex impulse. The haṭhayogins have laid down various practices for the methodical sublimation not only of sex but also of all baser instincts. The beginning is made through regulation of bionergy (*prāṇa*) for the discipline of the mind (*manas*), which is followed by specific methods of sex sublimation and control of the nervous systems.

The little-known and complicated technique associated with these processes have for the first time been simplified—so far as Haṭhayoga is concerned—with a view to encouraging the study of Haṭhayoga by the beginners in a graded and systematic manner. Some of the new innovations are the result of author's own adaptations based on the original technique with a wider range of application both to the students and patients. These have come to be associated with his name and are known as Yogendra *prāṇāyāma* and Yogendra psychosomatics.

Since diet, environs and way of life have a decided affect not only on the physical health but also on the mental and moral as well, Haṭhayoga prescribes a comprehensive regimen based on the minimal yoga requirements in these respects. These have been discussed in the last chapter dealing with hygiene in general. It supplies such information as the beginner may desire to have on the elements of nutrition—the liquid and solid nutrients—air, water, housing, clothing, activity recreation, sleep, suitable time for practice of Yoga, favourable seasons for the initiate and the daily curriculum.

Haṭhayoga which deals with Man in his wholeness providing for a complete science and art of healthy living on all planes of consciousness, however, had by reason of its secrecy become so much misunderstood

and disreputed that, during the past centuries, it remained not only neglected but even despised.

It has been the effort of The Yoga Institute of Santa Cruz founded by the author 40 years ago to investigate these secret but traditionally known practices both academically and scientifically in regard to its various claims and also its utility in modern life. True to the traditions, all the haṭhayoga practices were acquired directly from the great yoga teacher, Paramahaṁsa Mādhavadāsajī of Mālasara (1798-1921 A.D.) by the author who had applied some of them to thousands of students and patients under medical supervision in India, America and elsewhere. The ancient wisdom has now been compared with modern sciences by textual references and corroborations where possible; and it is after detailed scientific investigations carried on by the author in coöperation with eminent scientists that he has given final shape to a methodical study of this subject for its incorporation into one's daily life.

In fact, the present work along with other volumes of this series is used as a text at our special Training Institute of Yoga recognized by the government for the purpose of training teachers of Yoga. If we at all have reason to doubt the practical usefulness and scientific value of education we may as well so far doubt the practical utility and scientific import of yoga education which elevates what is ignoble in Man to the noble. On the contrary, it is certain that, when the science of Yoga will be studied by the scholars and scientists as closely as they have explored other branches of ancient civilization, a new field of investigation will open before them of wider extent than any other that has yet been explored or even known to exist.

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CHAPTER I

CARE OF THE RESPIRATORY APPARATUS

> No greater element than bionergy (*prāṇa*) exists in the body.
>
> *Amanaskakhaṇḍam*, I, 3.
>
> The science of bionergy, including the regulation of the breathing movements, is the practical Yoga *par excellence*. He who knows its secret knows Yoga.
>
> *Gorakṣasaṁhitā*, I, 46.

ACCORDING to Yoga, the respiratory movements represent only a portion of the grosser activities of the life force (*prāṇa*).[1] *Prāṇāyāma* which forms an important accessory of *Kriyā* Yoga really means the control of bionergy,[2] and the regulation of the breathing movements is merely a means to an end.[3]

1 On the strength of a casual reference by Patañjali and a few of his commentators, the word prāṇa has, at times, been interpreted as breath (*kaṣṭhasya vāyuḥ*). In fact, it is extremely misguiding and not at all in conformity with the more accurate interpretations by a majority of ancient and later authorities—not to mention the practical technique which specifies prāṇa as bionergy.

2 *Prāṇaḥ svadehajīvāyurāyāmastannirodhana* | Goraksa quoted by *Jyotsnā*, II, 71.

3 Anticipating such confusion of expression with regard to the word *prāṇa* as *vāyu*, Rāmatīrtha, the commentator of *Maitrāyaṇi Upaniṣad* (VI, 33), cautions that breath should never be confounded with bionergy (*sthūlavāyuśaṅkām vārayati*).

THE RESPIRATORY ORGANS

The hygiene of the respiratory organs consists in the care of the thorax, the respiratory muscles and the lungs, including the air-passages which lead to them. The thorax or chest-cavity is like a movable cage within which are contained the most important organs of breathing—the lungs, and of circulation—the heart. The muscles of the thorax are known as intercostals and fill the space between the ribs and complete the chest-walls; and the diaphragm which closes the cavity of the chest below, separating it from the abdomen. The other auxiliary muscles such as the scaleni, however, are not in use during quiet or normal breathing. In forced breathing, besides the intercostals and the diaphragm, other muscles of the trunk, the larynx, the pharynx and the face are also activiated.

Lately, considerable discussion has been raised on the comparative influence of the ribs and the diaphragm during the respiratory acts. (i) A majority of physiologists are of the opinion that the diaphragm is directly responsible for raising the ribs.[4] (ii) On the strength of his recent investigations, Halls Dally maintains that, in raising the ribs, the diaphragm is also assisted by the external intercostals.[5] (iii) A prominent

4 Cf. *The Diaphragm and Its Functions*, by J. M. W. Kitchen, M.D.

5 Cf. *Lectures on Respiration in Health and Disease*, by Dr. Halls Dally.

physical culturist, however, holds that it is really the ribs that move the diaphragm.[6] (iv) That all the above views are radically wrong is demonstrated by the fact that respiration can also be carried on independently without the use of the diaphragm. This is especially true in the case of certain methods of yoga breathing, viz., whenever uḍḍiyāna is maintained.[7]

The lungs being encased in the thorax have no direct communication with the outside except by means of the respiratory passages. In the normal respiratory act, the air enters these passages through the nostrils or through the mouth—only under certain abnormal conditions—whence it passes through the larynx into the trachea which divides into two branches (bronchi) one to each lung. The lungs have a spongy elastic texture and are composed of numerous minute air sacs or alveoli which connect with the outer air by means of the bronchial tubes. Again, these air sacs are of various forms, depending upon the mutual pressure to which they are subject. The function of these alveoli is to allow the red blood

6 Cf. *My Breathing System*, by J. P. Muller.

7 As the latter view is upheld conditionally, no general remarks can be pronounced as yet. It may, however, be observed that this special aspect of yoga breathing—apart from many others—offers a very great therapeutic advantage over the so-called deep breathing exercises. As such its complete discussion is reserved for the future publications because the subject really involves more of anatomical and physiological discussion involving far-reaching biologic interactions than of hygiene.

cells to absorb oxygen from the air and to give off the carbon dioxide.

The conditions which prevent the proper functioning and development of the lungs are chiefly the deformities of the thorax and of the spine. These, when not in advanced stages, could be cured through certain corrective yoga postures. But the most common form of attack which threatens the life of every individual practically every moment of his existence is the invasion by a countless number of dangerous microbes as of influenza, pneumonia, diphtheria, tuberculosis and similar infectious diseases upon one or many of the respiratory organs. Even the common catarrh of the nasal origin has been found to have a deleterious effect upon the air-passages and often leads to such inflammatory conditions as tonsilities, laryngitis, bronchitis, asthma and still more serious consequences. That these dangers could be easily avoided by the proper and timely care of the air-passages and the respiratory apparatus need hardly be emphasized.

Furthermore, the functions of the heart and lungs are intimately connected; and a strongly developed set of respiratory organs adds greatly to the perfect circulation of the blood. The red blood cells which form a major portion of the blood —approximated at seventy-five thousand millions in one cubic inch of blood—are the common carriers of oxygen, taking up a load of oxygen from the lungs to the various tissues of the body.

On their return journey, these cells, like a merchant vessel, bring a cargo of waste products of the body and unload the carbon dioxide in the lungs to be thrown away. This coöperation between the lungs and the heart continues from the first sign of life till the end of its existence.

FOURFOLD ACT OF RESPIRATION

Respiration consists of the alternate expansion and contraction of the thorax by means of which air is drawn into or expelled from the lungs. These two movements are termed inspiration—inhalation, and expiration—exhalation respectively. Yoga holds that the respiratory act is really fourfold wherein each stage is immediately followed by the other, viz., (i) the expiratory standstill or suspensive pause, (ii) inspiration, (iii) inspiratory standstill or retentive pause, and (iv) expiration.[8] Yoga also maintains that the health of the respiratory apparatus depends largely upon the quantity

8 These are termed (*i*) *śūnyaka*, (ii) *pūraka*, (iii) *kumbhaka* and (iv) *recaka* respectively by Vijñāna Bhikṣu. Cf. *Yogasārasaṅgraha*, II, p. 39. Although Patañjali has not stated this so clearly, he still refers to the pauses occurring before (expiratory standstill) and after (inspiratory standstill) each of the two main acts of respiration, *viz.*, inspiration and expiration. His commentators, especially Vyāsa and Vācaspati, Nāgeśa, Ānandapaṇḍita, Bhoja and others differing technically among themselves, interpret his aphorisms as suggestive of fourfold prāṇāyāma. Cf. *Yogasūtra*, 49ff. The Haṭhayoga authorities refer to both the threefold acts—pūraka, kumbhaka and recaka—and the fourfold act of respiration. Cf. *Yogayājñavalkyam*, VI, 2ff., and *Yogacintāmaṇi*, II *et seq.* Also *Haṭhayogapradīpikā* with *Jyotsnā*, II, 71.

and quality of the air inhaled;[9] and the rhythm and completeness with which the four major acts of respiration are performed.

DEEP BREATHING

Recently, much attention has been directed by the medical profession to educating the public on the necessity of deep and proper breathing as an absolute *sine quâ non* of health. As a consequence, many so-called breathing exercises have been suggested by various authorities, and some of these have even come to be introduced in the daily hygienic routine of a man. It can hardly be gainsaid that breathing forms the most vital process of life-activity. This action keeps up till the time of death and, in the meantime, the blood is being purified and aerated through the lungs. All the organs of the body work in rhythm as long as they are kept supplied with pure blood from the heart; but when this is stopped or vitiated their action also stops or becomes dull or deadened. It is, therefore, recognized that the biologic and psychic activities of a being depend mostly upon the supply of oxygen.[10] Any lack of oxygen reduces the quantum of *prāṇa* and thus affects *citta* through cerebral hypoxia.

Apart from its healthful effects on the whole system, deep breathing is a great preventive against

9 For details, refer to Ch. XII on *Hygiene in General* (air).

10 Cf. *Haṭhayogapradīpikā*, II, 2/IV, 15/IV, 23.

a number of diseases.[11] It is admitted by Fisher, Fisk and other leading physicians that " 'A hundred deep breaths a day' is a physician's recipe for avoiding tuberculosis. A Russian author, who suffered from a nervous breakdown, found—after trying many other aids to health without success —that a retired life for several months in the mountains in which simple deep breathing exercises practised systematically every day formed the central theme, effected a permanent cure."[12]

Besides outdoor living and sleeping, deep breathing—the precise scientific technique being yoga breathing—was strongly recommended by the ancient yogins, as it is now done by the modern medical authorities not only for hygienic reasons but also for therapeutic purposes.[13] The cure for many respiratory diseases—especially tuberculosis —through prāṇāyāma was recognized long ago by the ancient yogins.[14] Dr. Millet, a Brockton physician, has during the past few years begun to prescribe outdoor living, rest and deep breathing to his patients who were suffering from tuberculosis. The results obtained, as may be expected, were

11 Compare *Haṭhayogapradīpikā*, II, 16ff. It may be of interest here to observe that we (human beings) have a greater reserve force in our breathing capacity than animals, which, if properly developed, keeps the blood warm and full of those cells which are active enemies to disease-germs. Cf. *Breathe and be Well*, by W. L. Howard, M.D., p. 26.

12 Cf. *How to Live*, p. 25.

13 Cf. *Yogayājñavalkyam*, VI, 38, 39ff.

14 *Ibid*, VI, 43.

very satisfactory. Deep breathing in the sense of forced inhalation and exhalation by conscious efforts, has now the general approval of almost all the leading practitioners of the various systems of medicine.

(*a*) *Air Hunger*: Of course, the freedom of the lungs from disease more than most organs depends on the maintenance of a high standard of bodily health. Proper and symmetrical development of the body also implies a strongly developed set of respiratory organs. In the course of one of his lectures, Neimeyer emphasized that, "contrary to the general opinion that eating and drinking are the principal functions of life, hygiene maintains that air, or the 'vital air' as the discoverer of oxygen calls it, is the real *pabulum vitæ* (Hippocrates)." He further observes that "Whereas, under natural conditions, the 'swallowing' of this nourishment is an automatic performance with the wild tribes, the civilized man, working on the tread-mill of daily toil in a confined space, runs the risk of forgetting to take breath, gets chronically '*air hungry*' and becomes affected with consumption."

"Hygiene considers the practice of the art of breathing—i.e. breathing with a purpose, methodically—as the primary step because it enhances the appetite for air. The first desideratum is that, just as we provide several meals daily for our stomach, we should also provide our lungs with the rations they require—viz., air, by practising

full breathing, an art which we must learn from the new-born child."[15]

(*b*) *Defective Breathing*: In one of the old works in Sanskrit, it is asked: "What is Life?", and the reply is that "Life is the interval between one breath and another—*he who only breathes half, only lives half*; but he who has mastered the art of breathing has control over every function of his being." It was evident to the ancient yogins that *all life exists only from breath to breath*, and that the cessation of the respiratory activities signify death. They, therefore, recommended the practice of yoga breathing for the reason that the being that neglects to breathe properly reduces his tenure upon life to but a slender thread.[16]

Unfortunately, the civilized man has contracted the most reprehensible habit of breathing upwards to such an extent as to actually sterilize the upper part of the lungs. In fact, about one-third of the lung capacity always remains unused by the average person. This third is either the upper or the lower portion of the lungs where the oxygen never reaches. Right here is where so many breathe wrongly—they continue to take deep inhalations now and then, but forget or neglect the absolutely necessary *forced* exhalations. Gangrene—which is nothing short of the rotting of an extremity—is chiefly due to defective breathing. So also

15 Cf. *The Natural Method of Healing*, Vol.I, by F.E.Bilz, p. 154.

16 Cf. *Haṭhayogapradīpikā* with *Jyotsnā* II,3; *Yogasandhyā* p. 76.

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is the degeneration of the extremities and even of the internal organs, especially the failure of the end organs to record sensation or response, in the aged, largely due to the fact that, as the years pass by, the blood has less and less oxygen to send to these parts. Nervous instability, numbness of the fingertips, craving for stimulants and drugs, headaches, sleeplessness and similar ailments are many times due to the effects of wrong breathing habits.[17]

The other conditions which cause incomplete respiration are the filthy habit of snoring and mouth-breathing. These in themselves are highly dangerous, besides their evil effects upon the normal functions of respiration. None has ever gainsaid it, yet to the mass of mankind it means no more than if one were to write *omicron mu!* And still to the neglect of this primal function of breathing, the world pays—at the lowest estimate—an annual tribute of a quarter million lives; all sacrificed to *preventable* disease. Undoubtedly, one can live longer and live better by learning how to breathe properly; and the knowhow of this secret is in itself a science and art of life. In Yoga, prāṇāyāma is this secret.

Most people, nevertheless, fail to develop chest capacity to its fullest extent even through systematic exercises, because the powerful pushing muscle of the human bellows is not well trained or developed. This muscle is the diaphragm; yet the vast majority

17 Cf. *Yoga*, Vol. V, 3.

of human race live and die in absolute ignorance of the fact that there is such an organ as the diaphragm. Probably, a very small proportion of even the educated masses is aware of the existence of such a structure, but that is the limit of their information in regard to one of the most important respiratory organs of the human body.

REJUVENATION THROUGH BREATHING

The practical yogins always emphasized the value of deep breathing not only as a great spiritual aid to self-culture but also as an important accessory to positive good health, youth and, therefore, to longevity.[18] As a matter of fact, there is really no mystery or exaggeration in the claim that proper breathing methods can rejuvenate the decaying body and organs. Modern researches in the field of medical science prove beyond doubt that such renewal can be conveniently brought about by developing the respiratory apparatus—a belief which the yogins in India vigorously upheld some thousands of years ago.

Remarking on the process of rejuvenation through successful breathing, Howard in his popular work observes that, "The increase in the number of red blood cells in the body is brought about by mechanical means. The condition of the blood always adjusts itself to a variety of bodily and environmental factors. The release from a certain

18 Cf. *Haṭhayogapradīpikā*, II, 47, 54, 74f.

amount of atmospheric pressure on the body's surface lets loose blood corpuscles which were confined and pressed in some small spaces or tiny arteries and they get into general circulation. In the middle-aged persons and those beyond, there is an unequal distribution of red blood cells, due to pressure of fat, inelastic arteries and weak diaphragms. This latter breathing muscle may be, and generally is, hindred in its freedom by an overdistended stomach or intestinal tract.

"This state of affairs means that red blood corpuscles are jammed in or pushed aside to certain extremities or into blind alleys. In these places they are concentrated, and unable to obtain oxygen, the cells die, leaving the cast-off materials to be absorbed and make wrinkles and cause stiff joints. These prisoners—red blood cells—in their concentration camps cannot get out except through tiresome efforts, and often they have exhausted much of their stored-up oxygen when they do find freedom. Under these conditions, they are as useless to the human organization as a lot of skilful mechanics would be crowded into a room and unable to get at their respective machines.

"Any mechanical movement or driving force which stirs up these red blood corpuscles puts them into circulation—starts them doing their allotted work in rejuvenating the body and its organs. Certain forms of exercise will aid in accomplishing this change from age to youth,

but not unless right breathing methods are rigidly adopted and kept up."[19]

PRELIMINARY OBSERVANCES

Before practising the various yoga breathing methods, it is quite imperative that the following few observances are strictly carried out to derive maximum physiologic benefit:

i. Make a habit of cleansing the air-passages thoroughly. Get rid of all the clogged up dust and microbes which may have accumulated in these passages. The mouth, the teeth, the nares, the nasal canal and other air-passages etc., all need to be attended to directly every day. For such cleansing, pure water or analeptic solution may be used—neither too hot nor cold.

ii. Open up all the windows of the room and let in plenty of fresh air. If possible, select an open space free from draught, i.e., the air moving at 3 feet per second (Shaw).

iii. During breathing, unless otherwise suggested, the *mouth must be closed*. Do not ever let it get the best of you. When, however, you find that you cannot go on without taking a mouthful of air—due to organic or functional defects which ought to be remedied first—stop, and take in, and blow it out only through the nostrils. Breathing through mouth is a wrong habit and leads to an

19 Cf. *Breathe and be Well*, by W. L. Howard, M.D., pp. 118ff.

irritation of the throat. The nasal passages, missing the normal amount of stimulus, are also apt to lose tone; and the mucous membrane gradually becomes relaxed and falls into the state of chronic catarrh.

iv. Avoid all tight and confining clothes. A lungi or the ordinary bathing costumes are quite convenient. If possible, undress yourself—except for the waist—and expose the skin to fresh air, for even the skin breathes, and this process should also be helped.

v. Before commencing breathing methods, it is best to stretch every inch of your body by rhythmic stretching movements.

vi. Never try extreme stretching of any part of the body with the lungs empty of air. Whenever stretching exercises are undertaken, the same should always be accompanied by deep, prolonged and rhythmic breathing. It is best to hold the breath and do the necessary stretching during the period of retention.

vii. Exhale with vigour, slowly and rhythmically and squeeze out, as it were, all the air-contents of the lungs, before making any attempt at inhalation

viii. If your head aches, your nose or mouth feels stuffy or dry, and the stomach cramped up or overloaded, get out in the open air and breathe deeply. Keep this up for five minutes, before beginning the yoga methods of breathing. Then

take some rest and get to your normal condition and start.

ix. Pay more attention to exhalation than to inhalation for if the former is successful, the latter will take care of itself. The expiration should be watched especially since, with many, the tendency is to keep the lungs full of extra stationary air—the result of incomplete exhalation. This is why many athletes suffer from acute emphysema, or dilatation of the lungs.

x. Quick and jerky breathing might impair the elasticity of the lung-structure in men past middle life and should, therefore, be avoided in all efforts at breathing.

xi. People with weak heart and pulmonary ailments should follow the yoga breathing *very mildly* and should at no stage allow themselves to be overstrained. It is also *not* advisable for a child under the age of ten to twelve years to undertake the higher yoga breathing methods as they cause heavy pressure upon the heart.

xii. During all kinds of yoga breathing, the abdomen should be held in normal contour, unless otherwise specified. This natural condition of the abdomen encourages the deepest possible inspiration and expiration. Even though this preliminary adjustment for yoga breathing may, in the beginning require extra effort and inconvenience, the condition should necessarily be observed to derive utmost value of oxygen.

xiii. The manner of deep breathing is also a matter of great importance. A large number of people in trying deep breathing unduly strain their nostrils and pull the facial muscles to such an ugly point that the air-passages which really ought to be open and dilated get cramped and closed. This not only prevents the free entrance of air but also reacts harmfully on the development of the nasal passages which ought to become accommodating with increased effort at breathing. The facial expression, as illustrated in FIG. 1 is a typical example of the wrong manner of breathing which generally becomes a necessity with those who have obstructions in the nasal passages. The really convenient manner of taking in deep breath, however, is to keep the nostrils wide open, passive, and distended as in FIG. 2. This exercises the sluggish muscles and tendons of the nose, opens and expands the nasal passages, and thus helps to create more vacuity which permits of a generous and deep inhalation.

xiv. Lastly, one need not be satisfied with a few minutes of respiratory exercises but must make a *habit* of conscious deep inspirations and expirations at several other times of the day. Conscious deep breathing is highly valuable for two purposes: firstly, to develop the respiratory organs, and secondly, to aid the circulation of the blood. This is assisted by the movements of the chest walls and the diaphragm during inspiration which create a partial vacuum in the chest cavity

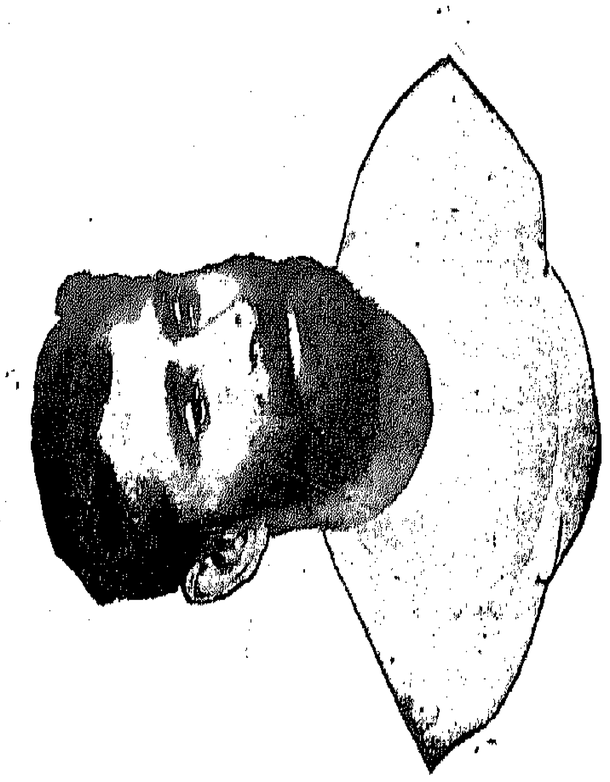


FIG. 2



FIG. 1

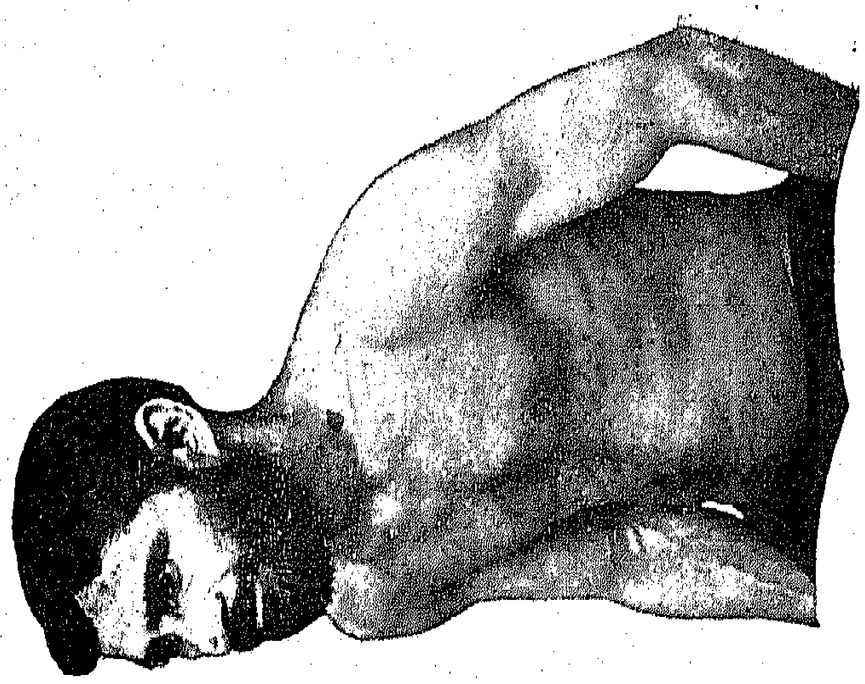


FIG. 4

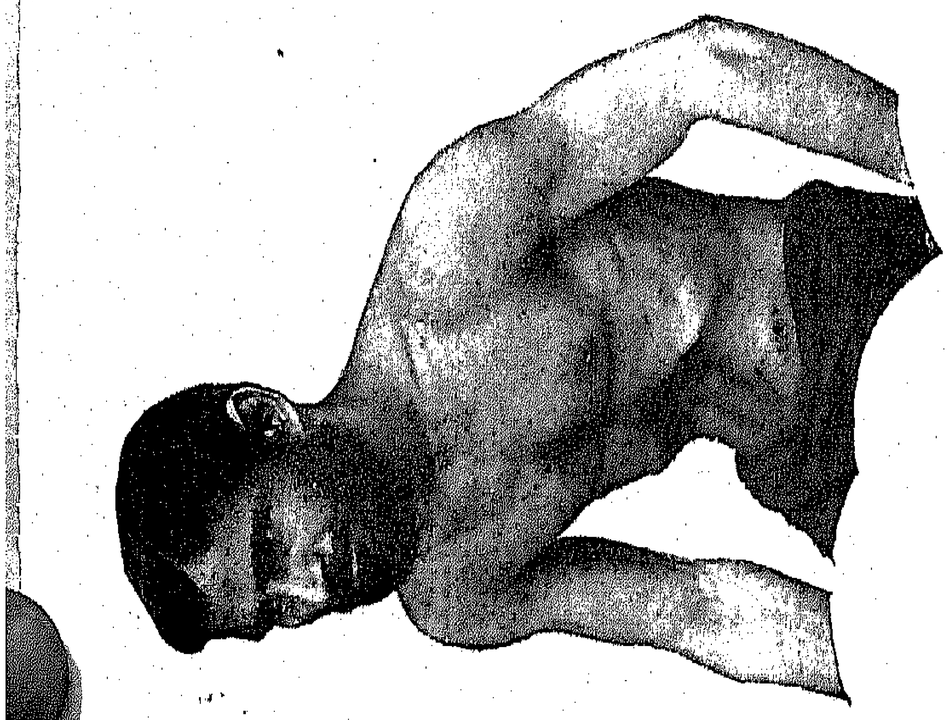


FIG. 3

that draws air into the lungs and blood towards the heart.[20]

YOGA METHODS OF BREATHING

The exercises recommended herein represent merely the initial stages[21] in the scientific study of yoga breathing, and have been selected for their simplicity. They are, however expected to fulfill the requirements of an average person and are quite adequate to meet the general need for respiratory hygiene. The higher technical yoga processes are more or less complicated, and their technique is not so easily understood without the guidance of a practical teacher. Such exercises have to be omitted purposely from this volume.

(*a*) *Śūnyaka:* This process of respiratory standstill[22] consists of the absolute suspension (*śūnyaka*) of breath even after a forced exhalation[23] and may be termed vacuum breathing. It is practiced thus:

20 No direct reference to the care of the circulatory system is to be found in the yoga texts, probably for the simple reason that other aspects of yoga personal hygiene make such specific mention unnecessary.

21 These practices which have been evolved and systematized by the author, in 1918, from certain vague hints traceable to *Amṛtanādopaniṣad*, 12ff, *Bṛhannāradiyapurāṇa* quoted in *Yogasarasangraha*, II, p. 39f., and *Skandapurāṇa* quoted in *Yogacintāmaṇi*, II, p. 186, have come to be popularly known as Yogendra prāṇāyāma.

22 Cf. *Kālikāpurāṇa* quoted in *Yogacintāmaṇi*, II, p. 186.

23 There is considerable confusion among the yoga texts in the interpretation of the terms *kevalakumbhaka* which really means

Secure siddhāsana or padmāsana as convenient, for the yoga breathing is performed most comfortably in a sitting position. Keep the body above the waist straight and the spine erect. Now take *in* a normal deep breath; and, when the inhalation is complete, exhale slowly and with ease. Make an effort to completely empty your lungs of the air-contents. Remember to throw breath out in one long, continuous and forceful rhythm. Keep on exhaling till the last volume of air is out and you begin to feel that you cannot exhale any more. When this stage is reached, draw up the abdomen in towards the spine.[24] See Fig. 3. Maintain this state with the suspended breath, i.e., do not either inhale or exhale. Keep this up for about five to ten seconds, then slowly begin to inhale until you get to the normal rhythm of breath. Repeat this vacuum breathing five to ten times once in a day—best followed in the morning.

This process is considered extremely useful for weak stomach and sluggish colon, besides being a corrective for inflated lungs and tachycardia. Those with serious heart affections and pregnant

an expiratory standstill. According to our findings, however, the main difference between śūnyaka and kevala kumbhaka is that while the former represents the respiratory standstill after forced exhalation, the latter is merely an absence of any respiratory movement after normal exhalation.

24 Somewhat akin to partial uḍḍiyāna. It helps to preserve the elasticity and tone of the diaphragm; and, because of its good contraction, the inhalation which follows results in greater breathing capacity.

women should avoid this method. Also children under the age of twelve years should be precluded from undertaking its practice.

(*b*) *Pūraka:* This process consists of absolute and continuous inspiration (*pūraka*) and may be termed the packing breath.[25] Maintain the same position as in the previous exercise. After normal exhalation, begin to inhale slowly and rhythmically in one long, slow and unbroken inspiration. Continue this till you feel a sense of fullness in your chest as in forced respiration. Remember to keep the abdomen controlled during the entire period of inhalation. See Fig. 4. Now, without retaining the breath, gradually exhale, avoiding jerks or hasty movements; and repeat.

Concentrate your attention on the time taken during the period of inhalation. This should be prolonged as far as possible, i.e., beginning from five seconds to ten seconds. The objective is to lengthen the period of inhalation so as to allow the maximum in-take of air with ease and without injuring the lungs. This is best achieved by beginning the act of inspiration *slowly* and *rhythmically*, taking enough time to complete the process, instead of drawing the breath in all at one time, or within a short period.[26] Practice

25 *Paripūrṇastathātiṣṭhet pūranāt pūrakaḥ smṛtaḥ* | Cf. *Skanda-purāṇa* quoted in *Yogacintāmaṇi*, II, p. 174.

26 If you are in the habit of suddenly filling your lungs in a short time, it is better first to acquire the habit of long inspiration through the packing breath. Cf. *Breathing Methods*. 2nd Edn.

this method of absolute inhalation five to ten times once in a day.

It may be observed that this breathing is very helpful to those whose lung capacity or heart action is poor. It forces open every disused air-cell in the lungs and stimulates the sluggish ones to healthy action. During extra breathing, if the expansion of the lungs is made to coördinate, through prolonged inhalation, with the speed of assimilation, the hygienic benefits, correspond to those during swimming.

(*c*) *Kumbhaka :* This process aims at mere retention (*kumbhaka*) of the inhaled air, generally termed *sahita* kumbhaka[27] or inspiratory standstill. Thus, having taken in a deep breath as suggested in the previous exercise, try and retain the inhaled air for a period of ten to twenty seconds—more preferably double the period of inspiration. That is, if the act of inspiration has taken five seconds, the retention should be for not less than ten seconds and so on accordingly.

For one thing, do not allow the abdominal muscles to relax but keep them controlled, i.e., held in normal contour, during the entire process of breathing. Fig. 5 illustrates the controlled abdomen during absolute retention of breath. For another, check even the slightest tendency to either inhale or exhale during retention, and

27 The kumbhakas are spoken of as twofold; (i) *sahita,* and (ii) *kevala.* Cf. *Haṭhayogapradipikā,* II, 71.



Fig. 5

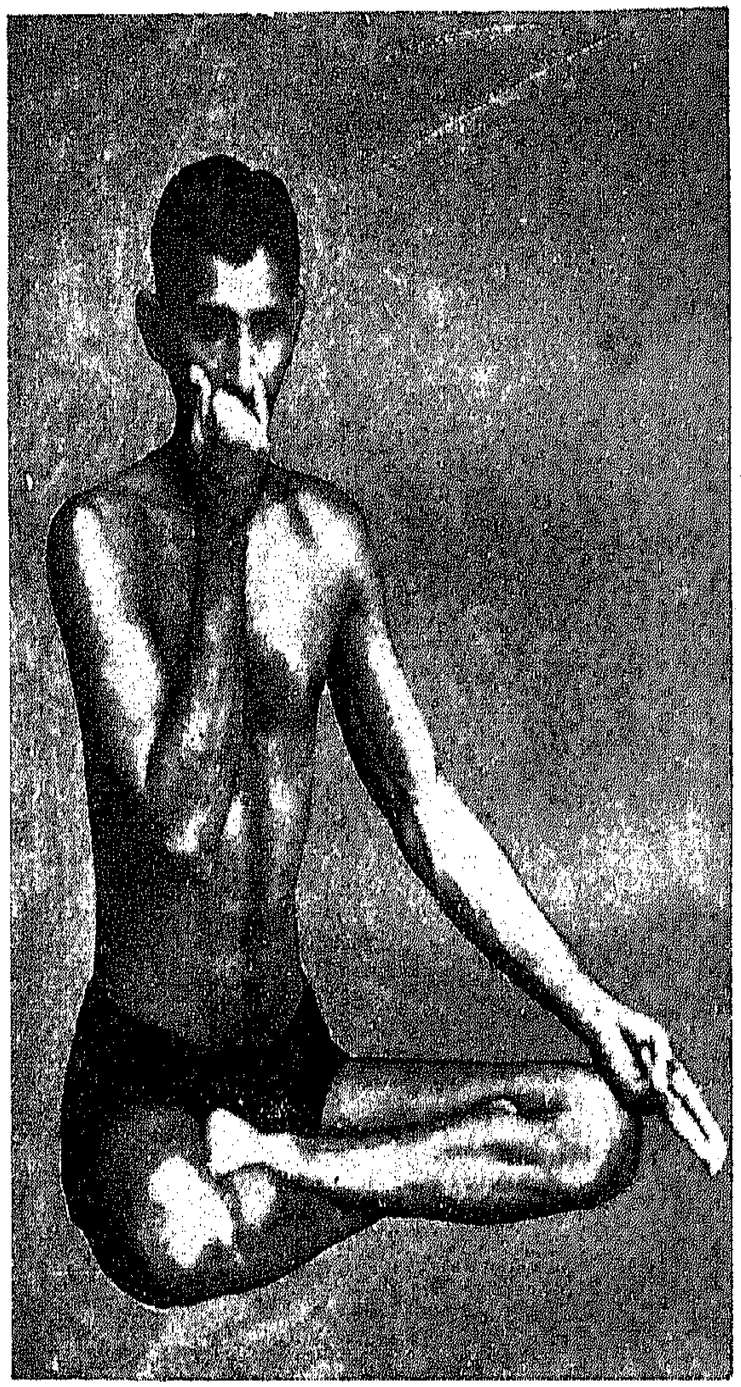


FIG. 6

maintain a passive state of "a bag full of air." After the due period of retention—in the ratio as suggested above—begin to exhale slowly, and repeat. For the beginners, it is advisable that the process be followed for only five times a day and increased to ten times gradually.

The hygienic effects of conscious retention of breath after a forced inhalation with controlled abdomen are quite marked upon, what are termed, the dead space-air and also upon the alveolar air, facilitating better ventilation due to favourable changes in the intrathoracic and intrapulmonic pressures than is otherwise possible. Bernard and Mantoux have shown (Factor of Safety) that the possibility of increase in the depth of respiration is nearly 400 to 500 per cent, and that, after a very deep inspiration, the retention of breath, causing necessary increase in the amount of carbon dioxide, stimulates the respiratory centres to a considerable interchange of oxygen during the *internal respiration*—in contrast to the reverse process which takes place in the lungs. This, according to Rosenau also establishes the regulation of breath by a continuous rather than an irregular and interrupted function of respiratory movements. And this is precisely what the yogin proposes to achieve through habituation to conscious and prolonged retention of breath[28] for health, longevity and concentration. Kumbhaka also reduces strain on the circulatory system.

28 Haldane and Priestly have demonstrated this. Cf. *Preventive Medicine and Hygiene*, by Dr. M. J. Rosenau, p. 704.

(*d*) *Recaka*: This practice consists of absolute exhalation (*recaka*). Thus, having retained the breath, as shown in the previous exercise, try to exhale *slowly* and *in one long continuous rhythm*. The object of this exercise is to lengthen the duration of exhalation with a view to facilitating maximum supplemental air. This can be achieved only by allowing the breath to escape in a *very slow* and *small measure* much in advance of time, i.e., before a forceful and hasty exhalation becomes a necessity. Try to adjust the time of both the inhalation and retention in such a way as to leave enough margin of time for a complete and prolonged exhalation. For a man of average constitution, the time necessary to complete such an act of either inhalation or exhalation should be *not less than* five to ten seconds.

Various control experiments conducted on forced expiration with controlled abdomen show that, apart from the corresponding pressure changes, a further quantity of air, about 108 cubic inches or 1728 c.c. approximately (Yogendra and Hack), is expelled through deep and prolonged exhalation besides the ventilation gained through normal expiration. Physiologists confirm that the air thus expelled by a forceful deep expiration consists of air from the alveoli. It means that, during recaka as practised above, a larger volume of carbon dioxide is eliminated from the lungs than is possible under normal exhalation. Yoga believes that the restoration of diaphragmatic function is superior in ventilatory effectiveness than ordinary breathing (Barach).

(*e*) *Anulomaviloma Breathing*.[29] It is a matter of general observation that every human being inhales and exhales for a certain period—approximately an hour and a half—through the right nostril and then automatically and unconsciously changes to the left for a like period. Yoga maintains that it is really the effort of Nature towards equibalance of the positive and negative effects of breath both on the body and the mind. That such harmony produced by alternate breathing will considerably aid, through equilibration, the general tone of the respiratory organs is easily realized. The special feature of certain methods of yoga breathing, therefore, consists in the alternate use of the right and the left nostril to regulate the varied effects of breath on the body and mind.

Sitting comfortably in any one of the two postures as recommended previously, inhale deeply, as in pūraka, through the right nostril closing the left one. Use the thumb and the little finger for closing the right and the left nostril respectively and alternately as in FIG. 6. Then, maintain kumbhaka—according to one's capacity or as per the ratio commended previously—and exhale slowly through the left nostril closing the right one. Reversely, drawing in the air through the left nostril, the lungs should be filled slowly as before and, after retaining the same for a like period, it should be exhaled as in recaka through the

29 This process is known as *sūryabhedana*—also termed *anulomaviloma*—prāṇāyāma. Cf. *Haṭhayogapradīpikā*, II, 48f.

right nostril. Inhaling thus through the one through which it was exhaled and having retained it there as long as possible, it should be exhaled gently and deeply through the other.

In fact, the complete round of yoga alternate breathing consists of: (i) expiratory standstill before undertaking deep breathing, (ii) inhalation through the right nostril, (iii) inspiratory standstill according to ratio, (iv) exhalation through the left nostril, (v) inhalation also through the left nostril—immediately following the previous deep exhalation through the same nostril, (vi) inspiratory standstill according to ratio, (vii) exhalation through the right nostril, and (viii) expiratory standstill before undertaking another round of prāṇāyāma.

Practical students of Yoga may be cautioned, especially with regard to the time-measure in yoga breathing, that the minimum numerical proportion of duration in the three important processes of breathing, viz., pūraka, two-fold kumbhaka, and recaka, be regulated in the ratio of 6 : 8 : 5 (Gorakṣa). Optionally, expiratory standstill may be of the same duration as the period of inhalation.[30] This can be easily achieved by following mental counts, the repetition of Om, the chanting of *gāyatrī* or the sacred formula, and, for greater accuracy, the use of a watch. The

30 Cf. *Gorakṣasaṁhitā*, II, 3ff. The author of *Gheraṇḍasaṁhitā*, V, 40, 41, however, supports the Matsyendra ratio of 1:4:2 instead of 6 : 8 : 5. The latter, however, is safe and convenient for the beginners.

relative time taken by each act is likely to vary with every individual but, at the lowest estimate, the same should be adjusted on the following basis: (i) expiratory standstill, *2 seconds*; (ii) inhalation through the right nostril, *2 seconds*; (iii) inspiratory standstill, *3 seconds*; (iv) expiration through the left nostril, *2 seconds*; (v) inhalation through the left nostril, *2 seconds*; (vi) inspiratory standstill, *3 seconds*; (vii) exhalation through the right nostril, *2 seconds*; and (viii) expiratory standstill, *2 seconds*. The total time thus required for one round of complete yoga breathing is about 20 seconds or three breaths per minute. The psychosomatic affects of this process are sedative first on the tone, volume and rhythm of the heart and second on the brain waves.

YOGA BREATHING VS. DEEP BREATHING

Deep breathing as taught by the various systems of medicine and of physical gymnastics in the East and the West differs largely in its technique, its reflex values, and its penultimate objective from the methods of breathing taught by Yoga. It is evident from even the few simple processes discussed previously that yoga breathing offers more favourable physiologic conditions for deeper inspirations and expirations than the ordinary deep breathing generally recommended. Among the many important considerations relative to the respiratory functions, those which exert great influence upon the whole of animal economy are the following: (*a*) absorption of oxygen, (*b*)

removal of carbon dioxide, (*c*) dynamic equilibration, (*d*) volume of arterialised blood, (*e*) sedative nervous effects, and (*f*) maximum vital index for longevity.[31]

(*a*) *Absorption of Oxygen:* From the hygienic point of view alone, the purpose of all breathing exercises should be the assimilation of maximum amount of oxygen with the minimum waste of energy. The natural contour of the controlled abdomen which is a prerequisite to the yoga breathing[32]—contrary to the ordinary deep breathing practised with protracted or relaxed abdomen—contributes to a greater intake of air than otherwise. Weber assures us that through deep inspirations a remarkable improvement in the heart's nutrition and action is caused, besides the nutrition and efficiency of the lungs themselves, which undergo in old age a kind of atrophy. He further observes that the depth of inspiration is considerably improved by keeping the abdominal

31 Only a brief reference to some of these vital issues has been made here for the simple reason that the detailed scientific exposition is sure to add bulk and is also not within the limits of this practical text. For full details, refer to other publications of the Institute.

32 In the opinion of the author based upon clinical and laboratory data of over 40 years, the compression of the abdomen as in uḍḍiyāna suggested by certain texts during the practice of breathing is really not so necessary. In the case of a layman, purely for hygienic purpose, it is enough—to counter the general reprehensible habit of protracted or relaxed abdomen during breathing—if the abdomen is held in normal contour which in itself implies the pull of the abdomen towards the spine (*pṛṣṭhatākarṣaṇa*). Cf. *Haṭhayogapradīpikā* with *Jyotsnā*, II, 45, 46ff.

muscles controlled during the process of inhalation.[33] This statement may be substantially corroborated by careful control experiments on intrathoracic, intrapulmonic and intra-abdominal pressures during yoga breathing.[34]

Moreover, during ordinary deep breathing, generally recommended or practised with vigorous exercises of one type or another, the oxygen use runs beyond the power of the respiratory and circulatory organs. This *oxygen debt*[35] overbalances the good that may be derived out of deep breathing, or, even if performed in moderation, does not necessarily produce the healthful effects on the

33 "I have already alluded to the additional advantage of the compression of the abdomen during inhalation, and may further point out that the action of the serous membrane, of the pleura, the pericardium, and the peritoneum are also beneficially influenced by the deep respiratory movements: they constitute a kind of massage to the lungs, the thoracic walls, pericardium and the heart (Sir Lauder Brunton). Cf. *British Medical Journal*, 1903.

34 It is agreed that the deeper the inspiration, the greater is the fall in the intrathoracic pressure. Physiologists have recorded this fall to be about 30 mm. of mercury. Generally, the fall in the intrathoracic pressure is *much greater* in yoga breathing than it is in the ordinary breathing which in case of the former reaches as low as 20 mm. It is thus evident that the yoga inspiration is deeper than the ordinary deep inspiration generally associated with deep breathing and experimentally studied by the physiologists.

Similarly, favourable metabolic and chemical changes can also be ascertained through oxyhemoglobinometer and the Van Slyke and Cullen's method, when applied even to the preliminary yoga breathing as suggested for the care of the respiratory apparatus.

35 Cf Drs. A. V. Hill and H. Lupton in the *Qt. Journ. Med.*, 1923, 16, 135.

respiratory organs. In yoga breathing, however, the restful pose and attitude of the mind, devoid of dynamic movements, cause no oxygen debt, but, on the contrary, the large intake of complemental air—still rich in oxygen—helps to maintain the alveolar air fully satured with reserve of 22 per cent. oxygen, in other words, with about 6 per cent. of extra oxygen above the normal average which is 16 per cent. automatically maintained in the alveolar air (Rosenau). These and other facts of chemistry and metabolism prove conclusively that the yoga technique and methods of breathing are physiologically quite sound and even superior to other deep breathing exercises in so far as the oxygen value and hygienic benefits are concerned.

(*b*) *Removal of Carbon Dioxide :* Haldane, Vierordt, Speck and generally all physiologists contend that the amount of air ordinarily exchanged in each act of breathing, tidal air, is not sufficient to completely empty the lungs of their contents. That a certain amount of air always remains constant in the air cells of the lungs and that this residual air is *not* expelled by the air cells even during the efforts of deepest expiration. But the process of retention, as in kumbhaka, however, makes the concentration of carbon dioxide possible in the air cells of the lungs—a condition so necessary for proper ventilation in the alveolar air. This retention, when followed by recaka during forced exhalation removes through supplemental air a very large amount of carbon dioxide thus concen-

trated; and the deep inspiration immediately following offers an abundant supply of complemental air, thus causing a change in the volume and composition of the residual air.

Again, the conditions which encourage a large output of carbon dioxide, viz., exercise and mental labour etc. being absent during the process of yoga breathing, the amount of carbon dioxide in a given time is lessened thereby tending to prolonged respirations which, in turn, help to diminish the waste from the body and give tone to the respiratory and circulatory organs (Paul). It is thus evident that during yoga breathing, the output of carbon dioxide is less, the respirations are prolonged, and the concentration and amount of carbon dioxide so affected as to facilitate its removal more effectually than is possible through the ordinary deep breathing exercises.[36]

(*c*) *Dynamic Equilibration :* One of the aims of yoga breathing is to produce inner, organic and natural harmony—a condition of normal balance—and regulation of the respiratory movements by alternate breathing. This dynamic equilibration is hardly scientifically achieved by the ordinary methods of deep breathing which fail to stimulate maximum coördination within. According to

36 Of greater importance to science, nevertheless, is the study of this subject in the light of various pressure changes effected through the higher yoga breathing methods with *jālandhara* and *uḍḍiyāna bandhas* and similar accessories. For obvious reasons, such discussion is beyond the scope of this work.

yoga physiology, there are two sets of bionervous (*prāṇāpāna vāyus*) influences which cause and control the act of respiration.[37] The one which is called positive is produced due to solar (*sūrya*) influence and breathing through the right nostril, whereas the negative counterpart is produced by lunar (*candra*) influence from breathing through the left nostril.[38]

It is further maintained that, by coördination between these two vital biodynamic currents, all life activities are sustained; and that it is an imperative condition of health that they should be equally balanced.[39] The yoga method of alternate breathing, in contrast to the ordinary

37 This should not be confounded with the effects of the positive and negative ventilation interpreted by Head, and supposed to be due to two sets of fibres in the vagus. Cf. *Handbook of Physiology*, by W. D. Halliburton, M.D., pp. 369, 370ff.

38 "It is of interest here to state that early in 1905, the newspapers chronicled the successful experiments of Dr. Atkins of the California Medical College, who had discovered, and succeeded in registering by *mechanical means*, 'a positive and a negative electrical current in the air chambers of the lungs of a living person'." Cf. *The Law of Rhythmic Breath*, by E. A. Fletcher, p. 13.

Lindlahr observes that "The breath entering through the right nostril creates *positive* electromagnetic currents which pass down the right side of the spine, while the breath entering through the left nostril sends *negative* electromagnetic currents down the left side of the spine. These currents are transmitted by way of the nerve-centres of ganglia of the sympathetic nervous system, which is situated alongside of the spinal column, to all parts of the body. Cf. *Natural Therapeutics*. Vol. II, by Henry Lindlahr, M.D., p. 189.

39 Cf. *Gorakṣapaddhati*, I, 38, 39ff.; *Yogayājñavalkyam*, VI, 2ff.

deep breathing, produces sedate harmony within the air-passages, the lungs and the nervous system and thus regulates and unifies the breathing movements and, therefore, the functions of bionergy (*prāṇa*) which, in fact, is one of the physiologic objectives of Haṭhayoga.[40]

(*d*) *Volume of Arterialised Blood*: Due to favourable pressure changes during yoga breathing—changes which are more pronounced than they are during ordinary breathing, whatever the nature of depth be—a very large volume of blood is arterialised with each respiration. Howard maintains that, "Mere breathing, deep breathing just to develop a big chest capacity *is valueless* unless the inhaled air can reach everywhere—every tiny cell in the body."[41] Physiologically, it is impossible to derive the utmost benefit of arterialization unless

40 Cf. *Yogasandhyā*, p. 50: *Yogacintāmaṇi*, I, pp. 12, 13.

Drs. Irving Fisher and Eugene Fisk, of the Hygiene Reference Board of the Life Extention Institute of New York, speak very highly of this type of yoga breathing. They remark, "A certain Oriental deep-breathing exercise is particularly valuable to insure slowness and evenness of the breath. It consists of pressing a finger on the side of the nose, so as to close one nostril, breathing in through the other nostril, breathing out of the first nostril in the same manner and then reversing the process.

"Attention to the slight sound of the air, as it passes through one open nostril, enables the breather to know whether the breathing is regular or slightly irregular. Such breathing exercises can be taken at the rate of three breaths per minute, and the rate gradually reduced until it is only two or even less per minute." Cf. *How to Live*, p. 26.

41 Cf. *Breathe and Be Well*, by W. L. Howard, pp. 92, 93.

deep breathing is followed with increased pulmonary circulation. That this is possible is admitted by modern physiologists. Thus, "The fall of intrathoracic pressure has a favourable influence on the flow of blood from the extrathoracic veins into the intrathoracic veins, the right side of the heart and the cardiopulmonic vessels. The flow of lymph from the lower portion of the thoracic duct into the upper portion is also increased."[42]

It is truism that the health, tone, and vigour of the body depends mostly upon the quantity and quality of the blood circulating throughout the system. In the yoga breathing due to favourable coördination between the positive and negative pressures in the intrathoracic cavity, general and pulmonary circulation is likewise improved both in quantity and quality even without the aid of muscular exercise which generally involves considerable waste of both the body tissues and bionergy.

(*e*) *Sedative Nervous Effects*: Deep breathing, which was originally confined to and associated with the process of concentration—during the period of the earlier Upaniṣads, about B. C. 700—was later introduced by the ancient practical yoga teachers like Yājñavalkya, Matsyendra, Gorakṣa and others also as a hygienic and preventive measure against a number of diseases.

Scientific Yoga, therefore, lays great stress upon the value of deep breathing, more so with regard

42 Cf. *Human Physiology*, by A. P. Brubaker, M.D., p. 127.

to its nervous influence,[43] and also as an aid to mental and psychic culture rather than to its healthful physiologic effects promoting longevity. Thus, apart from its value to the body, deep alternate rhythmic yoga breathing has also its psychological counterpart. That there should be some affinity between mental activities and respiration seems quite natural when it is realized that, with every breath we take, the brain cerebrates unconsciously and involuntarily. Few people know, and fewer still care to know that every change in the mental state is accompanied by a corresponding change in the volume, force and rhythm of respiration, and that such a continual interaction between the brain and the lungs can be safely utilized for supraphysical and supramental achievements. The yogins maintain that the rise and fall in the depth of respiration cause a corresponding change in the activity of the brain.[44] For example, during deep and rapid breathing, the blood circulation in the brain also becomes accelerated. It means quick and rich blood supply to the brain which, in turn, cannot fail to affect a rapid change in the mental modifications (*cittavṛtti*). It has been

43 That a decided nervous relation—in the form of simultaneous and coördinated activity of both the respiratory muscles and nerve centres, affecting *vice versâ*—exists between the brain and the lungs is an indisputable fact. It is equally certain that a corresponding rhythm can be established in the nervous system through the regulation of the respiratory acts. Cf. Halliburton's *Handbook of Physiology*, pp. 368, 369ff.

44 Cf. *Haṭhayogapradīpikā*, II, 2; *Yogasandhyā*, p. 75.; and *Skandapurāṇa* quoted in *Yogacintāmaṇi*. I, p. 31.

stated that, "He, who has controlled prāṇa through the respiratory system, automatically gains control over the activities of the mind-stuff (*citta*). In the like manner, he, who has gained control over the activities of the mind-stuff, automatically acquires control over prāṇa and, thus, the respiratory movements."[45] Both *prāṇa* and *citta* are spoken of as one biomental unit.

These sympathetic inter-relations between the breath and the mind are so distinct that, under certain conditions, they produce very remarkable phenomena. Stebbins observes that, "It is quite possible for the brain to be engaged in the most intense molecular action and the mind occupied in solving the problems of creation *without* the lungs responding to such emotions and thought, and sinking to their minimum action, but this can only be accomplished by skilful training. In other words, in a perfectly natural state the respirations will beat time, so to say, with the depth of thought or the power of emotion dominating the brain. When the thought-vibrations awaken into action the higher intellectual powers of the mind, the respirations sink lower and become slower and slower until in the ecstatic state of abstraction we almost cease to breathe."[46]

Similarly, the affects of the mind on breathing have been very ably explained by Swedenborg. He remarks that, "Thought commences and

45 Cf. *Haṭhayogapradīpikā*, IV, 21ff, with *Jyotsnā*.

46 Cf. *Harmonic Gymnastics*, p. 14.

corresponds with respiration. First, *study to feel your thought*. Thus when one entertains a long thought, he draws a long breath; when he thinks quickly, his breath vibrates with rapid alternation; when the tempest of anger shakes his mind, his breath is tumultuous; when his soul is deep and tranquil, so is his respiration. But, let him make trial of the contrary; let him endeavour to think in long stretches, at the same time that he breaths in fits, and he will find that it is impossible."[47]

The ancient yogins were fully aware of these psychic affects of prāṇa through breath.[48] It is thus stated in most of the practical yoga texts that breathing is lessened when the mind-stuff becomes absorbed, and that the mind-stuff becomes absorbed when the breathing is restrained.[49] By the suspension of one, therefore, comes the suspension of the other. When both the mind-stuff and the breath remain controlled, blissful absoluteness is achieved.[50] The best means for creating harmony and concentration within, therefore, is first to create harmony in breathing, and this could only be very effectively done through the various breathing methods some of which have already been described. Yoga takes aid of

47 Yoga, therefore, rightly lays stress upon training in the breathing methods as the prerequisite to concentration; and, of these, emotional shut-off is taught first.

48 Yoga without prāṇāyāma is empiric and accidental. Cf. *Haṭhayogapradīpikā*. II, 4.

49 Cf. *Ibid*, IV, 23.

50 Cf. *Ibid*, IV, 24 and 25 read with 30.

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breathing essentially with a view to controlling the functions of bionergy, and, through such control, to gaining mastery over the mind. Modern researches fully corroborate this claim as also various other probabilities of interactions between mind and respiration. For example, during certain mental states or emotions—despair, hope, anger, fear and hate, etc.—the respiratory movements vary in such rhythm as to produce an equipoise of force. It is easy for an expert psychologist to tell you the state of your mind from the state of your respiration, just as the skilled physician is able to diagnose your physical ailments by feeling your pulse. This knowledge of interaction between the brain and the breath has been the common property of all ages. And it is on this foundation that a large number of rhythmic processes of respiration have been formulated by the ancient self-culture adepts, the yogins, who hoped to attain the peace of mind through the regulation of breathing movements.[51]

Whatever the spiritual claims be, one thing nevertheless is true that the habit of deep, prolonged, rhythmic breathing, in due course, establishes a corresponding state of mental equipoise.[52] And this saves much of the dynamic energy of the nerves wasted during physical or mental discord, excitement, and confusion. Prolonged, deep, rhythmic breathing thus acts as a great nerve

51 Cf. *Ibid*, IV, 30.

52 Cf. *Yogasūtra*, I, 34 : *Yogasārasaṅgraha*, II, p. 27.

tonic and ensures the health of the body and mind. But, as the sedative nervous effects of breath depend more upon the prolonged and restful respiratory acts rather than upon mere deep breathing, it is easy to discriminate between the relative chemical, metabolic and psychic effects of the active ordinary deep breathing (about six breaths per minute) in contrast to a complete round of yoga rhythmic breathing (about one breath per minute). In fact, it is not without scientific reason that in the East, the yogins in order to secure nervous quietude and mental poise took to special methods of breathing much different to those now known to the Westerners as deep breathing exercise.

(*f*) *Maximum Vital Index for Longevity*: It is extremely regrettable that the word *prāṇa* so frequently, discriminately, and persistently used in all the Sanskrit works—especially in those dealing with Yoga—has not been sufficiently or technically understood and interpreted by the Oriental scholars and students of practical Yoga. Even the so-called staunch and zealous exponents of Yoga—really, the imitators of this great Institute—have quite naturally misconceived this subject and interpreted the word *prāṇa* as mere "breath"—or, if stretched further, might at the most agree to or prefer the use of the word "oxygen". Although lack of oxygen affects mental processes because of its effects on the brain, this gaseous element does not convey the full meaning of the word *prāṇa* which is the energy evolute of an organism. What, then, is *prāṇa*?

The right interpretation, to put it broadly, is this :[53]

The use of the word *prāṇa* in certain practical yoga works, only at a few places, meaning *breath* is symbolic of the various uses to which it has been subjected, and this particular interpretation as breath merely identifies one of its activities with respiration. Prāṇa, according to the practical yoga technique and terminology does not at all mean breath, but means *most certainly* "the biomotor force" pervading the whole body—the most appropriate scientific term now being bionergy. In the human body, it (*prāṇa*) pervades the entire being,[54] and life is sustained (*prāṇiti*) exclusively

53 The author has had the pleasure of discussing (in 1923) the root meaning of the word *prāṇa* with his esteemed friend Dr. Surendranath Dasgupta, one of the leading Sanskritists, of the Calcutta University. In order to be precise in their conceptions, they went through nearly all the most important works in Sanskrit and jointly took down notes on this subject. They are convinced that the word *prāṇa* is best understood by the physiologic term "biomotor force". This interpretation is thus based upon the essential of their findings. For corroborative details, *Cf. A History of Indian Philosophy*, Vol. II, pp. 256ff.

The audacity, therefore, of such unauthorized writers as Kuvalayānanda (J. G. Guṇe) and others who do not know even the difference between *prāṇa* and *vāyu*, in writing books on the intricate technique of *prāṇāyāma* is self-evident. Lack of practical training, of subjective experience, of close acquaintance with academic findings, and of inheritance of the secret technique as handed down through tradition by the teacher to the disciple is responsible for such gross misinterpretation and application of this most important word of scientific Yoga.

54 Cf. *Praśnopaniṣad*, III, 3. This view has been accepted by the ancient Indian medical authorities.

because of it.[55] In this capacity, it upholds the body by keeping together the various mind and body substances in essential harmony and unity through its manifold activities.[56] What the orthodox physiologists refer to as vital force, life energy or life force (Scott), the biologists as the biomotor force (Hæckel) or, better still, bionergy (Dorland), and the modern scientists as "the flying energy in the body" (Stiles)—exactly corroborating the definition *capalāspadā* of the ancient yogins—is, in fact, the very *prāṇa* referred to by scientific Yoga.

The specific function of this prāṇa is motion and, because it moves, it is called prāṇa (*prayāṇam kurute eti prāṇāḥ*).[57] Thus, it is the prāṇa which operates in the sperm or *śukra* and the ovum or *rajas* for if the prāṇa had not acted at the time of conception, the embryo would not have developed or ultimately would not have led to the creation of a child.[58] It is also held that this prāṇa performs its functions in the human body only when it is nourished with food, water, air and light etc.[59] Thus, we are told that when the food

55 Cf. *Kauṣitaki Brāhmaṇa*, II, 5ff; *Kenopaniṣad*, I, 8; *Yogayājñavalkyam*, IV, 20; and *Carakasaṁhitā*, sūtrasthānam, XII, 7.

56 Cf. *Ibid*; *Dehendriyavidhāraṇakāraṇam prāṇaḥ* | *Brahmasūtra* with *Bhāmatī*, II, IV, v, 11.

57 Cf. *Ṣaṭacakravivṛtti*, p. 12; *Kāpilagītā*, II, 31; and *Kenopaniṣad*, I, 1ff.

58 Cf. *Brahmasūtra* with *Śaṅkarabhāṣya*, II, IV, v, 10, 11f.

59 Cf. *Maitrāyaṇī Upaniṣad*, VI, 11, 12f.; *Taittirīya*, I, v, 3.

is taken, the water is drunk, or the air is inhaled, its fine essence becomes transformed into prāṇa since it is both the cause and effect of them.[60]

That the knowledge of this prāṇa, its activities and control was a great advantage to the yogins in the evaluation and evolution of Man can hardly be denied, when it is realized that the modern sciences plead their ignorance and inability to fathom its mysteries. What at most Bertrand Russell can say about it is that "this 'chemical imperialism' is a *curious* chemical property which when mixed with suitable environment transforms a mass of dead matter into a mass of living matter. It is *this property* which has made *organic evolution* possible."[61] Stebbins honestly admits "that there has been a *something* extracted from the atmosphere *besides* the *oxygen* which is supposed to be the real basis of life, a something which *science at present knows nothing about*, and which, consequently, *she cannot explain.*"[62]

60 Cf. *Chāndogya Upaniṣad*, I, viii, 4/VI, v, 2 ; *Taittirīyopaniṣad*, I, v, 3f. ; *Mahānārāyaṇa Upaniṣad*, I, 29 ; also *Carakasaṁhitā*, sūtrasthānam, XXVII.

61 Cf. *Limits of Human Power*.

62 "All that the most able experimenters have, as yet, been able to ascertain is that an *unknowable*, *undefinable* change has taken place in the air which we have respired. This truth has been fully illustrated in the careful experiments of Dr. B. W. Richardson, by which it was demonstrated that 'the air which has been respired loses its life-supporting quality, independent of any change by loss of oxygen or acquisition of carbonic acid.' That there is a recognized *something* necessary for the support of life besides the physical environments known to chemistry, is a scientific fact,

The yogins, however, are able to demonstrate that through certain methods of deep and rhythmic breathing exercises both the general tone and vital index of the body are inordinately increased—to be sure, through the regulation, conservation and control of prāṇa—and further, that the maintenance of maximum vital index ensures sufficient reserve vitality to stand as a great preventive against disease-dangers and thus helps to prolong life.[63]

THERAPEUTIC VALUE OF YOGA BREATHING

Among the large number of patients treated for respiratory troubles by the author, both in India and America, through the yoga methods of breathing —combined largely with such rational therapeutic measures as the sun, air and steam baths, massage, hydrotherapy and diet etc.—the following case

and, in this respect, Dr. Joseph Rhodes Buchanan in his *Therapeutic Sarcognomy* very truly remarks ; 'That the life-supporting quality of the atmosphere is continually varied is certain, *there being some element in it which chemists have not yet detected.*' This *peculiar something* which constitutes the 'life-quality', and which careful experiments demonstrate to be missing in air that has been respired, is *the next grand problem* that awaits the solution of science. What, then, is it? Cf. *Dynamic Breathing*, by Genevieve Stebbins, pp. 49ff.

63 It may be of interest to point out here that, according to the yogins, whatever prolongs the interval between two breaths—sahita kumbhaka or inspiratory standstill—promotes longevity. Paul observes that, "From the above analysis of the fore-mentioned long-lived individuals, it appears that they respired less than six times per minute —the normal being sixteen times per minute." Cf. *A Treatise on the Yoga Philosophy* by N. C. Paul, G.B.M.C., p. 7.

reports may prove interesting in evaluating the curative effects of yoga breathing.[64]

Mr. Lewis B. McSorely of Philadelphia—he was and is the Chief Chemist of the Government (U.S.A) Laboratory at Philadelphia—age about 35, case No. Am. 2006 was found suffering from asthma for the past number of years. When admitted as an inpatient, he had very little hope of recovery because the disease had advanced so far that its malignant and violent character had taken absolute possession of him and reduced him to a mere skeleton. The spasmodic attacks, especially after the sunset, were so severe that it practically became impossible for him even to breathe—accompanied, of course, by a convulsive state of the muscular fibres in the smaller bronchial tubes. Sleeping on the back or, for that matter, in any lying-down position was found impossible; and the patient had to rest throughout the night in a sitting position leaning against a chair. The sleep he thus gained was of a very short duration, i.e., only for about two hours, between 1 A.M. to 3 A.M. after which he was usually awakened by a severe attack continuing at times for over a period of an hour or so. During nights, he had recourse only to self-administered

64 Of the approximate 5000 cases attending the Institute nearly eighty per cent needed corrective or proper breathing habits. Of these, about ten per cent were found suffering from respiratory diseases with cardioactive symptoms: and an equal number from various types of asthma. For full details reference should be made to the journal, *Yoga*, Vols, I, II, III, IV, and V and to the *Annual Reports of The Yoga Institute.*

hypodermic injections and these were followed in succession, i.e., ranging from two to four injections in eight hours each night. In such a state of health, having failed to secure relief through the usual methods of treatment and drugs known to modern science, he subjected himself to the yoga treatment.

Needless, to enter into the details of actual treatment—which, of course, included corrective and therapeutic breathing methods known to Yoga—suffice it to mention here that, in the course of a week, the patient was able to use his bed instead of a chair for sleeping which he did not have the good fortune to do for the past three years, and enjoyed undisturbed rest of two to three hours. After this, he improved very rapidly under the yoga regimen and was allowed to return home after three weeks. He religiously kept to the treatment methods taught to him and regained his normal health in the course of six more months. He observed after three years of steady improvement, in a personal letter to the author, dated September 8th 1925, that:

"It is good to be able to tell you that I have had no trouble with asthma of late. In my case it seems essential to build up my general health and strength. It is noticeable that when I rest a great deal and take things easy I have no trouble. I still keep up the yoga exercises every morning, and believe they are most helpful; also, I rarely, if ever, eat meat; have no taste for it any more."

Master M.A.I.R. of Bombay, age 8, case No. Bom. 759, was operated two years ago for adenoiditis and tonsillitis. After operation, the throat became septic resulting in low grade septic fever lasting for over three months. Soon on recovery, he was attacked with whooping cough which continued to linger for over a year. Grand-son of a rich knight, no treatment was spared howsoever expensive but to no avail. Finally he was recommended to undergo treatment at the Institute, and, when admitted on the 10th February 1941, was found suffering from whooping cough with intermittent fits of sneezing and paroxysms. Wheezing in the lungs extremely prominent. During attacks at night lasting for hours, he suffered terribly from the usual feeling of suffocation with the face becoming cyanosed. Due to this malady, sleep was disturbed and, being chronic, it wore him down and kept him listless. He was accepted as an outpatient purely as a trial case. After two months of treatment, violent and frequent sneezing stopped. Lungs were normal free from any trace of wheezing. Sleep sound and undisturbed. Spasmodic paroxysms completely absent. Breathing capacity recorded a rise of nearly 83½% (600cc/1100cc) with corresponding increase in vitality by 25% (56/75 E. Lbs. Grip.)

Mr. M.A.R. of Bombay, age 17, case No. Stc. 862, was found suffering from asthma. He gave up his studies in U.K. and all treatment methods in Europe and India proved ineffective, and semi-invalidism continued. The hilar regions were



Fig. 7

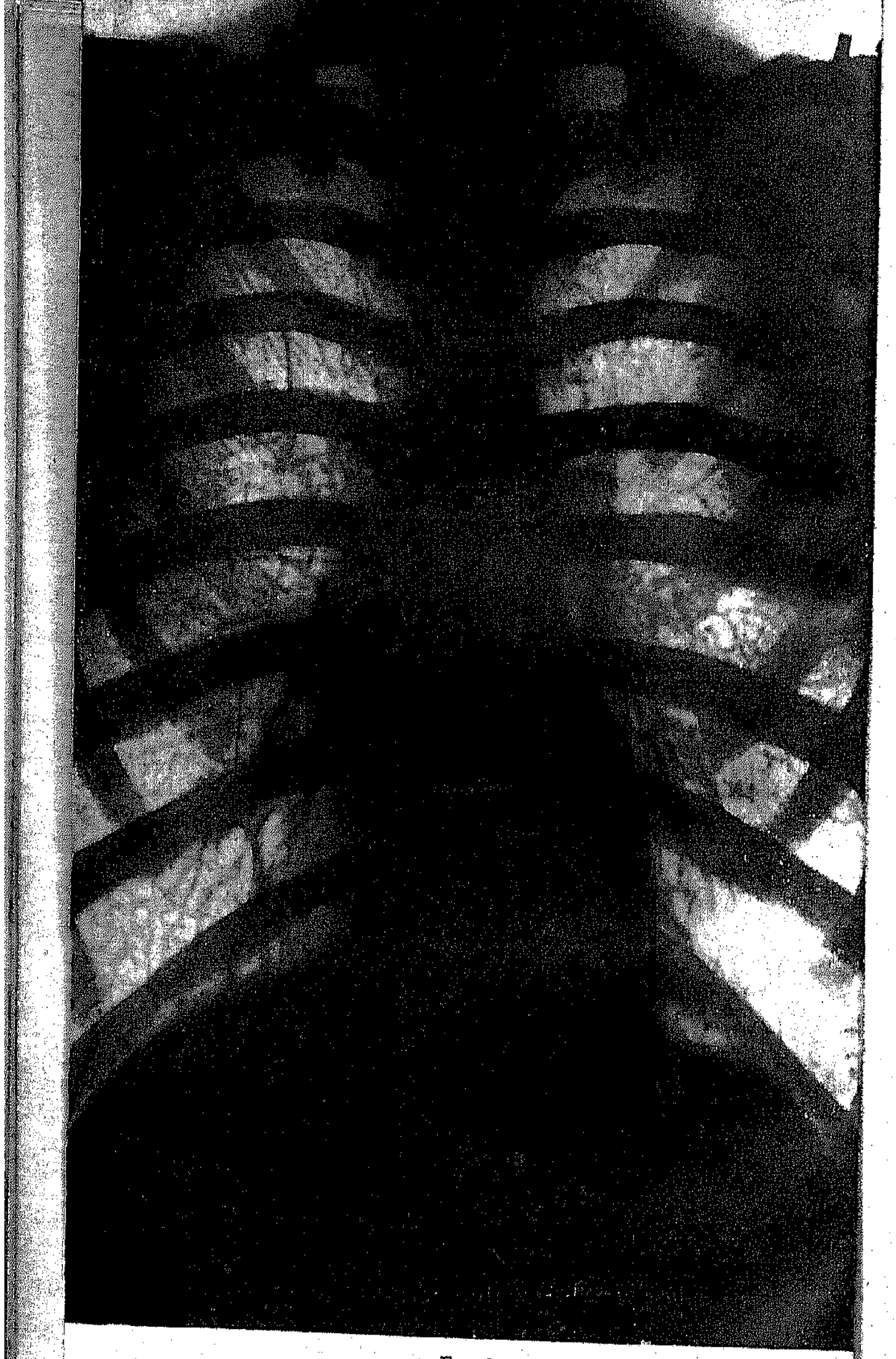


FIG. 8

found heavy radiating upwards and downwards, giving an appearance consistent with bronchial asthma. The heart was found rather narrow. Sheer desperation and faith brought the patient to the Institute on the 5th December 1949 where he remained as an inpatient for three months. During the period his respiratory capacity improved from 2000cc to 3750cc, his blood pressure from 100s 70D to 110s 64D, and the endurance test from 168 E.Lbs. to 210 E.Lbs. He was discharged in good health completely cured. X-ray after the treatment showed normal heart and lungs, and when last examined after seven years, he was found to be in perfect health. Refer to FIGS. 7 and 8.

MODERN SCIENTIFIC CORROBORATIONS

Writing about the treatment of asthma in the *Practitioner*, May 1935, Dr. J. L. Livingstone makes many important observations regarding the value of right breathing exercises for asthmatics. He states, "The value of breathing exercises is not sufficiently appreciated in the treatment of asthma. It is an *extremely valuable form of therapy, and is applicable to most cases.* It is something the patient feels he can do for himself, and if he has sufficient perseverence and energy to acquire necessary control of the respiratory muscles, it is no exaggeration to say that fifty per cent will be symptom-free and a further thirty-five per cent will be very much improved.

"The aims of remedial breathing exercise are :— (*a*) to acquire automatic diaphragm breathing

at the expense of the thoracic type of breathing; (*b*) to concentrate on expiration rather than inspiration, especially on the on-set of an attack; (*c*) to increase the mobility of the chest wall and to relax the accessory muscles of respiration; and (*d*) to correct the kyphosis and other deformities commonly found in the chronic asthmatic."

It may be mentioned here that the Asthma Research Council of Great Britain have only of late bethought of recommending certain breathing exercises meeting the above requirements. It is also computed by the Council that unless the patient can acquire a chest expansion of at least $2\frac{1}{2}''$ at the fourth rib and $2''$ at the epigastrium, he should be treated as having not acquired the technique, and will, therefore, not be much improved. An interesting feature of their finding, however, is that a number of patients report that they are able to abort an attack by doing the simple expiratory exercises at the on-set of wheezing.

For over decades, a large number of patients suffering from asthma have been most successfully treated at the Institute through yoga therapeutics.[65] Remarkable case reports of asthma with narrow heart, myocardosis, fibrotic lungs, emphysema, and similar complications have already been recorded and published by us along with radiograms.

65 The use of breathing exercises as a therapeutic measure in the treatment of asthma and other respiratory diseases was fully known to the ancient yogins. The recent scentific findings are merely a rediscovery. Cf. *Yogayājñavalkyam*, IX, 37; *Haṭhayogasaṁhitā*, IX 38.

Not less than about a hundred cases have recently passed through our observation and the results, irrespective of age, sex and duration of suffering, have been in the main all that could be desired.[66]

That of all the breathing exercises known, the yoga methods of breathing are undoubtedly superior in many respects is a fact which has been scientifically established and demonstrated by the author long before. For the laymen, such exercises have been fully described in other publications of the Institute, and the methods so illustrated as could be safely followed both by the lay students as well as those suffering from respiratory and other troubles.[67]

YOGA RESPIRATORY HYGIENE

Great care has to be taken to avoid any possible strain or tendency to suffocation by overdoing any particular breathing movement, as the respiratory organs are very susceptible to local injury. During all exercises, moreover, the mind should be kept

66 In one female patient, Miss S. S., age 16, case No. Bom. 536, who suffered from anemia, underweight and low vitality, whose breathing capacity at the time of admission was only 500cc. (abnormally low), a gradual rise in the lung capacity brought new life. At the termination of her treatment, her weight increased by 6 Lbs. (91/97 Lbs.) and the breathing capacity, surprizingly enough, recorded a rise of nearly 400 per cent (500cc/2100cc) in conformity with her normal vital index requirements for her age, weight and height.

67 The scientific value of yoga researches and publications of The Yoga Institute may be easily gauged from such facts as the

steady by efforts at concentration on any part of the body, or an object to insure better results. The table hereunder is merely a guide of sequence, period and frequency most suited to the initial study of yoga breathing exercises.

following. After many years of scientific investigations—to be exact, fifteen years after the Institute first treated asthmatics with breathing exercises—the Asthma Research Council of Great Britain has been obliged not merely to accept the value of breathing akin to yoga methods in the treatment of asthma, but has, to a great extent, copied without acknowledgement the various breathing methods recommended by us, now known as Yogendra prāṇāyāma, and published in one of the official publications of the Institute. A little comparison between the *Breathing Methods* published in 1932 (ours—the third edition now in press being renamed *Yoga Breathing Methods*) and the *Physical Exercise for Asthma* first published in 1935 (theirs) will convince any impartial reader how the whole dynamic yoga technique as evolved by the author in 1918 has been fully exploited, without the least acknowledgement, by this body of physicians and surgeons. Cf. *Science of Yoga*, pp. 37, 38ff.

ORGAN	YOGA METHOD	FREQUENCY	TIME
The Lung	*Śūnyaka*	Morning & Evening	1 mnt.
"	*Pūraka*	" "	"
"	*Kumbhaka*	Morning only	2 mnts.
"	*Recaka*	Morning & Evening	1 mnt.
"	*Anulomaviloma*	" "	5 mnts.

CHAPTER II

CARE OF THE SEXUAL ORGANS

Through continence, vigour is obtained.

Yogasūtra, II, 38.

Life is prolonged, indeed, by the preservation of the internal secretions of the sex glands (*bindu*).

Śivasaṁhitā, IV, 88.

IT is a matter of more regret than surprise that a subject of such grave and complex importance as the sex hygiene, which really transcends the limited sphere of physiology, viz., the reproductive organs, and, on which depends largely the psychic, moral and general health of man, has been either conveniently avoided or not sufficiently emphasized to warrant serious attention of the public. There, however, is no *one single* human instinct that wields such a great influence upon an individual, in all capacities, at all ages and at all times, as does sex (Vātsāyana). In Yoga, it is imperative that the manifold characteristics of sex are positively and primarily understood in order that its hygiene may be thoroughly appreciated.

SEXUAL INSTINCT

Besides the two cardinal principles of motion and nutrition, every living cell or aggregation of cells possess also a capacity for reproduction,

and the sexual sense and organs on which this entire process depends thus touches the very foundations of biologic, moral, and psychic life of man. In fact, the preservation of self is universally regarded as the strongest human instinct and is often alluded to as the "first law of Nature." That there exists an equally important—in some respects, even of primary importance—instinct of self-propagation can hardly be denied. This more or less closely allied and intimately coëxisting principle of life consists in the desire to prolong or perpetuate self in species which is manifested by sexuality or the sex sense and fulfilled biologically through the activity of the sex organs.

It may sound theoretically, morally or æsthetically unpleasant but it has since long been found to be practically true that there can be passion without love but there can be no love without passion. Sex is the central biologic urge of life for it is an ever-present stimulus which must be sublimated.[68] It *is* the animating impulse of all organic life which underlies the struggle for existence and search for happiness in the animal world. It is thus easy to understand why in dealing with the three great objectives of life, the ancient Hindu authorities on Erotics not only did not refer to the highest spiritual purpose of man but coolly accepted systematic sexuality as "the be all and the end all" of human happiness.[69]

68 Cf. *Chāndogya Upaniṣad*, III, xvii, 1, 2, 3.

69 Cf. *Kāmasūtra*, I and II.

Similarly, Malchow in the West boldly asserts that, "It may be said of humanity that if it lives for any one purpose more than another, that purpose is *sexual*."[70]

PSYCHOANALYTIC APPROACH TO SEX

Within the past few decades, especially after Freud published his work[71] on sexuality in human beings the conceptions of sex have undergone radical changes. The words "sexual" or "sex" (*libido*)[72] are utilized and elaborated by the followers of Freudian doctrines in their very broad sense with a more general and less specific meaning than is conveyed by the usual connotation of limiting it to the reproductive faculty.

According to the Freudian theory of sex, it is assumed that besides the conscious mind, there is an unconscious—better expressed by the word "subconscious"—mind denoting all those mental processes of which we are not aware. Psychoanalysis however, undertakes to explore the study of this so-called unconscious mind, especially by establishing its relationship to self-consciousness.[73]

70 Cf. *The Sexual Life*, by C. W. Malchow, M.D., p. 196.

71 Cf. *Drei Abhandlungen zur Sexualtheorie*, by Sigmund Freüd, Lepzig and Wien.

72 Other names such as *elan vital* (Bergson), *horme* (Jung) and *craving* (Putnam) etc. have been proposed, but the word "*libido*" is used here to express the terminology of Freud.

73 "It is the function of psycho-analysis to bring to consciousness the processes that are normally *unavailable for consciousness*. Cf. *Psycho-analysis*, by W. J Fielding, p. 13.

Freud, in effect, maintains that sex is born with us for it covers the entire sphere of the primary biological pleasure-principle and manifests itself through all stages of life and at all times.[74] In India, this idea of sex influence in all ages and in all spheres of life is as old as the works on *libido sexualis* (*kāma*) which may be traced to the erotic sciences of India compiled nearly a thousand years ago.[75]

According to these new viewpoints, in sharp contrast to the orthodox attitude of fear and superficial explanations, it is now possible and necessary to realize, through rational and scientific interpretations, the vital importance of sexual hygiene affecting, as it does, not only the biologic sphere of reproductive organs but also the health of both the subconscious and the conscious mind.

74 Dr. Alfred Adler of Vienna, however, considers the three fundamental views of the Freudian sex theory "as erroneous" and replaces this theory with that of his, viz., masculine protest (*männlichen*) as the guiding principle in human life. Cf. *The Neurotic Constitution*, by Dr. Alfred Adler, p. ix.

75 That psychoanalysis in various forms existed in India and that the influence of sex on life was recognized by the ancient yogins is becoming more and more evident. Cf. *Kāmasūtra*, Ch. II.; *Yoga*, Vol. V, 2.

"East has specialized for centuries in just this line of investigation and has collected a vast store of knowledge. And indeed as Jung and other psychologists have outspokenly stated 'we are but babies to them in the deep things. That is also my firsthand experience.'" Cf. *Sane Psychology for Sane People*, by M. S. Desmond, p. 18ff.

CULTURAL AFFECTS OF SEX

In the case of human beings, thus, the sexual instinct and its expressions have a very far-reaching and decided influence upon the (*a*) psychic, (*b*) moral, (*c*) mental, and (*d*) physical growth of an individual. These influences of sex extend in mysterious ways that as yet we do not understand.[76] Hartley, emphasizing this fact, observes: "For in sex we have as yet learnt very little, and I doubt sometimes if we can ever learn very much, except each one of us for ourselves out of our own experience. The sex emotions are among the deepest, if not the deepest of our nature; they exercise an influence on every phase of development, and in one form or another, direct the entire being of the individual."[77]

(*a*) *Psychic*: It has been maintained, during all ages and by all classes of spiritually-minded people in all countries, that psychic evolution is not possible except through purity in sex matters. All the systems of soul-culture, therefore, either Indian or non-Indian (Flagg) consider the control of sex desire as an essential requisite which is rigidly enforced upon the would-be students of spiritual life. The results thus obtained, e.g., the spiritual perspective, evolution and attainments

76 "Finally, we must remember that our knowledge of sex is quite incomplete. Our ignorance (in sex matters) is abysmal." Cf. *Preventive Medicine and Hygiene*, by M. J. Rosenau, M.D., p. 88.

77 Cf. *Motherhood and Relationship of the Sexes*, by C. G. Hartley, pp. 326ff.

claimed by the followers of celibacy, however, may principally be ascribed to the sense of elevation and security aided by the concentration and conservation of sex energy and absence of emotional flow ultimately leading to an abstract or negative influence upon the psychic environments of an individual.

(*b*) *Moral:* The moral influence of sex is evident in the classic social institutions and marriage rights and imposition of certain moral laws concerning sex matters and sex relations. Even among the wild tribes, the slightest transgression of this particular organic function—sex gratification—except under stipulated conditions including certain rights granted by the society, causes great commotion and is generally looked upon with intolerance.

It also cannot be denied that, in the individual, the idea of "evil" and "inferiority" so closely associated with sex desire and its abuse, imbibed through centuries of vague but constant propaganda from the religious and moral teachers, exerts a very marked influence on his moral character and social traits generally.

(*c*) *Mental:* "The sexual sense and its development is a far greater causative factor in the production of mental states than is commonly supposed."[78] What is undoubted—though hardly observed or fully realized and appreciated—

78 Cf: *The Sexual Life*, by Dr. C. W. Malchow, p. 34.

is that sexual problems become translated, in many cases, into mental problems.[79] This principle—the relationship of sex to the mind—was thoroughly recognized by the ancient students of psychology in India, and the movement for purity in sex and continence (*brahmacarya*) during the Vedic period was principally based upon this hypothesis. Freud, Janet, Kish, Fowler, Havelock Ellis and other investigators in the field of sexual science, however, have of late attempted to prove the same old empiric belief as correct, of course, through scientific and valid reasons. Although varied in certain details, their conclusions point to a general agreement that the causes of mental aberrations, viz., neurosis and psychosis are, in a very large degree, remotely or nearly allied to or influenced by the sex impulses. And further, that the health of mind is in some measure dependent upon the health of sex organs, impulses and other associated agents inclusive.

(*d*) *Physical:* The physiological significance of sex instinct and sex hygiene is self-evident—reassured by our everyday observations—during the growth of a boy into a man and a girl into a woman. Consistent with the hygienic effects of the sex organs, it has been rightly emphasized by physiologists of such eminence as Lipschutz, Halliburton and others that the removal of sex endocrine glands in either sex has a very deleterious influence upon the

79 Cf. *Mental Hygiene*, by Abraham Myerson, M.D., p. 447.

mental and physical growth of an individual.[80] White, Kempf and others supply us an elaborate list of the large number of diseases other than sexual that arise solely due to dysfunctions of one or more of the sex organs.[81]

EVILS OF IGNORANCE IN SEX MATTERS

The dangers of ignorance, or of sudden, and too late knowledge in sex matters, are very great and, possibly, more prevalent, than commonly supposed. They may be roughly classified as those that exert their evil influence (*a*) before and after puberty; and (*b*) during the married life.

(*a*) *Before and after Puberty*: It is now a well-established truism that the most injurious influences affecting the physical and mental condition of young children arise mainly from ignorance of sex and misdirected sex impulses.[82] The two of the worst dangers into which it is possible for every young boy and girl to fall, due largely to absence of or improper advice in the sex sense, are:

80 Castration in early life, as in the case of eunuchs, results in the loss of internal secretions—both the testes and ovaries produce valuable hormones—and a failure in development of the secondary sexual characters which distinguish the male and female both physically and mentally. Cf. *Preventive Medicine and Hygiene*, by Dr. M. J. Rosenau, p. 85.

81 Cf. *Principles of Mental Hygiene*, by W. A. White, M.D.; also *The Autonomic Functions and Personality*, by Dr. E. J. Kempf.

82 See *Education and Infant Welfare*, in Annual Report for 1914 of the Chief Medical Officer of the Board of Education (Cd. 8055, London).

(i) the artificial stimulation of the reproductive organs, and (ii) the acquisition of degraded ideas on the subject of sex.

i. Of these two evils, self-abuse quite common among both the sexes[83] produces many complications and disastrous results which, most certainly, could be prevented by timely advice and necessary information on the subject.

ii. But, the degraded ideas acquired, during these stages of ignorance, for want of proper knowledge in sex matters are more vicious than even the physical loss sustained through self-abuse which in later years is, to some extent and in many cases, overcome. These, therefore, have a lifelong influence upon the personality, character and behaviour of an individual and develop sub-consciously into sexual perversions and inversions, viz., homosexuality, sadism, and masochism etc., and, at times, progress beyond that by reducing the unfortunate victim to a state of moral and physical wreck.

(*b*) *During the Married Life*: The miseries of married life are multiplied by the perverted psychosexual tendencies and ignorance in respect of their proper functions—the uses and abuses—of the generative organs. Unhygienic sexual relations, during the married life, have the same physiologic and psychic disadvantages as are

83 "Among those who are of the opinion that women resort to solitary practices with greater frequency than men, may be mentioned Morris, Pouillet, Nœcke, Moraglia and others." Cf. *The Sexual Life*, by C. W. Malchow, p. 77.

common to masturbation. Venereal diseases from which approximately more than one-fifth of the adult population suffers (Biggs) have their origin in unnatural and unclean sexual life. Such relationships, whether within the marriage bonds or outside them do not alter the position so far as suffering is concerned, for a marriage is no safeguard against disease or ignorance. Impotence and insanity are again the extreme but usual results of ignorance in sex matters, besides a large number of diseases both physical and mental which might well be ascribed to unhygienic sexual relations.

Usually, the sexual relationships outside of marriage tend to intensify the evil consequences of neglect—the very fact of their being unnatural, unsocial and dictated by the uncontrolled urge of circumstances—breed weakness, irresponsibility, anxiety and their attendent consequences. Besides the pairing individuals, both the home and the society suffer and participate in the untold amount of misery and even premature deaths, all due to a preventable cause, viz., ignorance in sex matters. The pinch of ignorance, however is most alarming and disastrous for a woman more than a man during all sexual acts—and especially during the period of pregnancy, as the demands of motherhood are physiologically the most exacting.

SEX EDUCATION

Chief among the causes that present difficulties in freely imparting the knowledge of matters

sexual may be counted religious and ethical hypocrisy.[84] As a consequence, sex subjects are usually viewed with either false sentiments or vulgarity. Such shameful concealments, however, do not lead to anything like purity in sexual life. On the contrary, the secretive and baneful influences become more painful and deeply rooted than would otherwise have been the case if sex education was made available to those who most need it. Especially, in regard to sex education, the old-style innocence, false modesty and artifices should be discarded as sinful ignorance at the earliest opportunity, and the sex subject should be discussed most frankly and truthfully.

There are only two possible alternatives to meet this problem, that is, either (i) to leave the young to their own fate to pick up information from vulgar and unclean mind or (ii) to give it ourselves in such rational manner as to associate it with healthy thoughts and actions. One thing, nevertheless, is clear—and on which there is a general agreement among all classes of hygienically-inclined people—that sex education is necessary for healthy living. Emphasizing the need for such education in sex hygiene, Rosenau observes that, "Every boy and girl, before reaching the age of puberty, should have a knowledge of sex,

84 "We ourselves are shame-faced because we are still savages in sex. If not, why this awe and funk, these taboos and mysteries, all the secretive cunning with which we hide from the young facts that we all know, but pretend that we don't know?" Cf. *Motherhood and the Relationships of the Sexes*, by C. G. Hartley, p. 327.

and every man and woman before the marriageable age should be informed on the subject of reproduction and the dangers of venereal diseases. Superficial information is not true education."[85] Instruction in sex hygiene may be imparted through three principal avenues, namely, (*a*) in the school, (*b*) at home, and (*c*) by literature.

(*a*) *In the School:* As Boutroux maintains, "Education, in its true and complete meaning, is not the acquisition of any particular habit or knowledge, but rather the cultivation of the human being with all his physical, intellectual, and moral powers."[86] This object of education could not, however, be possibly achieved by ignoring the very existence and function of an instinct and an organic life so dominating and powerful as sex. It is really deplorable, therefore, that both the boys and girls in our schools are trained to become secretive about themselves, treating their special sexual functions as a mystery and shame. And the greatest folly of the modern educational system, undoubtedly, lies in the fact that, at all times we continue to educate boys and girls as if they are sexless neuters, when human nature keeps on asserting that *they are not.*

Who should impart the sex knowledge? As the success of instruction depends largely upon personality, knowledge and confidence, it is

85 Cf. *Preventive Medicine and Hygiene*, p. 85.

86 Cf. *Education and Ethics*, E. Boutroux (Member of the Academy), p. ix.

imperative that the person to impart the information should have impressive personality, thorough knowledge of the subject, and absolute trust of his students.

At what age should the knowledge of sex be disclosed? Naturally, this should vary according to the ages and sex—boy or girl—and should be imparted gradually, according to the need of an individual. In practice, there can be no fixed age-limit for such a purpose, i.e., the period at which sex education could be best imparted, for it entirely depends on the awakening of sex consciousness in the young mind, and this is likely to vary with each individual.[87]

What should be the nature of such instructions? For one thing, sex instructions should be individual rather than collective. For another, no general principle could be laid down as to the details and manner in which the subject might be handled. It all depends on the individual need and circumstances. The following suggestions might, however, be found useful as basis for modifications:

87 It has been reported by Fowler, quoting authentic resources and testimonials, that even the girls and boys (between the ages of six and eight years) have known *all about* the practice of masturbation and understood the language used to describe it. Dr. Woodward of the Worcester Lunatic Asylum remarks that those who think that information on this subject (sex) is unnecessary are hardly aware *how extensively known this habit is with the young or how early in life it is sometimes practised.* Cf. *Creative and Sexual Science*, by Prof. O. S Fowler, p. 805.

In the young children, between the age of four to seven years, the curiosity for the knowledge of maternity, how and why of birth etc., is very keen, and it is advisable to answer their questions with all possible frankness just enough to satisfy their prying interest. No specific information on the subject of sex relations should be offered to them at this stage.

The growing child, reaching the age of puberty, however, should be precisely informed of the unnatural habits, aided by the study of physiology, biology and hygiene. The rewards of strength and virtue—especially in respect of sex hygiene—should be emphasized rather than the dangers of weakness and vice. The young student, between the age of eight to fourteen years, should be further cautioned with great seriousness to avoid trifling with or handling of his or her external genitals, reminding him or her of the consequences which may impair his or her intellectual and physical growth, marring their bright and promising future.

At about the age of fourteen or sixteen years, boys as well as girls should be fairly well acquainted with the physiologic functions of the sex organ and their specific purpose.[88] They should also be enlightened and cautioned against the venereal peril, emphasizing its evil effects upon their

88 Some of the facts all young men and women should know are: that the true purpose of sex function is reproduction and not sensual pleasure; that the testicles and ovaries have a twofold function, (*a*) reproduction and (*b*) supply of force and energy to

respective would-be partners and the future offsprings. Great care, indeed, needs to be exercised while imparting such knowledge to the young generation. At no time should such suggestions as are likely to excite their morbid curiosity be offered unnecessarily for that may do more harm than good.

When it is realized that a large percentage of even the high school and college students suffer from venereal diseases,[89] it becomes imperative to suggest that certain preventive measures should also be employed—besides mere education—to cure those who may be suffering and to save those who may have become victims to these modern sex-plagues. In considering venereal prophylaxis, it should be further remembered that such diseases do not yield immediately and the student should, therefore, be advised to undergo a continued and

other organs of the body; that occasional emissions at night are evidences of normal physiologic activity; that chastity is *compatible* with health; and that sex instinct in man may and can be controlled. For elaboration, see *Preventive Medicine and Hygiene*, p. 85.

89 Making a personal appeal to the author for suggesting means to prevent the progress of venereal diseases among students, Prof. H. C. Mukerjee of the Calcutta University—late governor of Bengal (W.)—observes, "For sometimes past I have been noticing with increasing sorrow a gradual deterioration among our students in both their physique and morals. When I inspected the Carmichael Medical College last, I was informed on *unimpeachable medical authority* that 70 to 75 per cent venereal cases treated in the outdoor dispensaries of Calcutta are contracted by the students of higher school classes and college students." Dated the 5th June 1930, Senate House.

reasonably efficient medical treatment even after the supposed cure.

(*b*) *At Home :* The sex education should not always be left entirely to the school teachers, for much solid and constructive education can be imparted and supervised at home. The most effectual preventive against sexual abuses is character-building, and this could hardly be accomplished better than through proper training at home.

It is the mother who should enlighten the young girl on the abuses and dangers of sex, and see every day that her instructions are carried out and that all the hygienic measures specified for this purpose are strictly observed. Boys should likewise be instructed by their fathers or guardians who should make it a daily habit, in the interest of their own children or wards, to keep watch of their moral, mental, and physical growth, Besides cleanliness of the external sex organs and emphasis on the virtue of moral life, hygienic measures for general health should also be enforced because sexual health is mainly constitutional and responds quickly to a corresponding increase in the standard of physical well-being.

(*c*) *By Literature :* Also much can be accomplished in broadcasting healthy sex education by propaganda methods—through press, documentaries and lectures etc.—publications, notifications, posters, visual instructions and many other avenues, e.g., through distribution of authorized literature on

the subject of sex, followed by free instructions at the health centres and clinics. Not that only the boys and girls of tender age are ignorant of sex hygiene but even the grown-ups and the married do not seem to know much about the proper care and right use of sexual organs and their respective functions. Personal instruction is, indeed, the best medium in educating the general public on matters of sex but, where this aid is not available, literature is the next best source of education.

MODERN SEX HYGIENE

It is now widely recognized that idleness, evil associates, impure thoughts, stimulating drinks or food, over-eating and constipation etc. are among the main causes that excite passion. Unclean habits also tend to irritation of sex organs, just as emotional or mental excitement and curiosity stimulate sexual craving. Erotic films and styles of dress with intent to sex appeal are equally responsible for voluptuous character and behaviour. What is needed for sex hygiene is not puritanism but rational and scientific perspective and approach about matters sexual.

The code of personal hygiene—for purity in sex—recommended by the modern scientists is principally constitutional. Thus, idleness is to be replaced by physical exercise and an out-of-door life. Evil associates and impure thoughts could likewise be substituted by the habit of occupying or diverting the mind to other subjects or to more

useful aims of life, viz., art and literature, etc., which may serve as a safety valve for the excess eroticism of youth. Indulgence in stimulating drinks or food and over-eating can be remedied by self-denial and moderation. Constipation and other pathological conditions should be relieved through the various means suggested elsewhere in this work. Again, in order to prevent irritation caused by decomposition of secretions of the sex endocrine glands, genital cleanliness should be practised daily and thoroughly.

The hazard of kissing, erotic excitability, and other unsanitary practices must be lessened or absolutely avoided. The need for hygienic sexual relationship—within or outside the marriage bonds—is also imperative and considerable precautions should prevail before indulging in such acts in order to guard against possible harm to both the parties. Literature which scientifically treats of the physiological functions of sex and its psychological affects, more than anything else, may prove to be the best medium of diffusing knowledge upon sex matters. It can also easily meet the need of a vast majority of people who are usually misguided by vulgar and superficial knowledge and degraded ideas and instructions upon matters sexual.

YOGA METHODS OF SUBLIMATION

The psychoanalyst interprets that the sexual impulse and energy become directed to more useful and non-sexual purposes, in adult life,

through a process termed *sublimation*. Should the sexual impulses and energies, however, remain unsublimated or unexpunged, they become invariably manifested through various psychosexual perversions and inversions.[90] The unsublimated libido is further supposed to cause some form of derangement of the nervous system and the psychic structure—a neurosis in one of its several variations—generally.[91]

Thousands of years in advance, Yoga recognized the full significance, of all such issues, namely, the need and usefulness of the process of sublimation,[92] and has recommended the replacement, deflection or purification of the energy not only of the sexual impulse but also of the non-sexual mental modifications (*cittavṛtti*).[93] This is best achieved by efforts at concentration and elevated moral and spiritual life,[94] filled with humanism, inmostness, devotion and purity etc., so necessary to deflect the mind from sexual impulses.[95]

The hope of attaining supranormal powers or *aṣṭasiddhi* and the acquisition of physical, mental

90 Cf. Dr. Hitchman's *Freud's Theory of the Neurosis*, p. 112.

91 *Ibid*, p. 115.

92 *Avadātarūpakaraṇam* Cf. *Vyāsabhāṣya*, II, 30.

93 Cf. *Yogasūtra*, I, 23ff.

94 Compare *Yogasūtra*, I, 2 to be read with the above sūtras.

95 Malchow observes, "It is a deep and discriminating knowledge of the psychology of man that requires the elimination of sexuality in order to insure a greater enthusiasm, deeper devotion and mental concentration for a spiritual cause. Cf. *The Sexual Life*, by Dr. Malchow, p. 34.

and spiritual perfection held before the would-be yogin inspires him with the necessary fervour and willingness to sacrifice base gratifications, sexual and otherwise, for the sake of higher achievements. The moral code of observances and restraints (*yama* and *niyama*) is a great check against the biologic instincts and emotional inhibitions and thus the weaker side of nature. By scrupulous cleanliness, disinclination to one's own body and cessation of contact is encouraged[96] which, in turn, conduces to dispassion (*vairāgya*) towards all sexual acts. And finally, the love and search for ultimate knowledge—called *brahmajñāna* or *viśiṣṭajnāna*—serves his purpose for a "guiding line" (Adler). These with other substitutes of a varied nature occupy the entire being of an individual leaving neither time nor space for expressions of sexual impulse during the study of Yoga.

The physical sex energy of the youth finds an outlet in the yoga physical culture and control with the galvanizing urge for higher and still higher achievements unto longevity through the various purificatory means. Again, scrupulous personal hygiene (*dehaśuddhi*) diminishes the danger and chances of passion-consciousness invariably roused by morbidity, both in its frequency and intensity.

It is thus clear that more interest is, undoubtedly, aroused by these methods of yoga sublimation than

96 Cf. *Yogasūtra*, II, 40.

is ordinarily possible through love of art or literature and certain socially useful purposes. What is more, Yoga changes the very personality and perspective on life, and the sexual instinct is, in fact, reduced to an exceptional nullity. Again, the positive and negative contemplations (*pratipakṣa* and *vipakṣa bhāvanā*) purify the mind of unclean thoughts and inspire one for the attainment of highest good through equanimity, dispassion, and indifference to the pairs of the opposites (*dvandva*). Lastly, the ideal of *brahmacarya* or chastity adds considerably to the yoga efforts at sublimation.[97]

INTERPRETATION OF BRAHMACARYA

In the Vedic and earlier Upaniṣad periods, continence—in the sense of abstinence from sexual intercourse whether by action, word or thought with all living beings and at all times[98]—was regarded as the highest and the only virtue leading to Yoga.[99] This was modified and supplemented with an equally important practice of concentration during the later period.[100] This association of the idea of continence regarded as an essential

97 For practical details of the various means of sublimation suggested here, a reference may in future be made to *Yoga Mental Hygiene*, by Shri Yogendra.

98 Cf. *Yogayājñavalkyam*, I, 55 ; *Iśvaragītā*, XI, 18.

99 Cf. Ṛgveda, X, 129 ; *Chāndogya Upaniṣad* VIII, iv, 3/VIII, v, 1ff. ; *Kaṭha Upaniṣad*, I, ii, 15 ; *Bṛhadāraṇyaka Upaniṣad*, I, ii, 6 ; and *Muṇḍaka Upaniṣad*, II, i, 5.

100 *Tām yogamiti manyate sthirāmindriyadhāraṇām* | Cf. *Kaṭha Upaniṣad*, VI, 11 with Madhva's commentary.

requisite for Yoga, however, gave rise to a variety of misconceptions. It has, thus, been wrongly supposed that a married life is not particularly suitable for the practice of Yoga; that such an engagement obstructs the path of higher pursuits; and that even if pursued during married life, it does not lead to the ultimate achievement. This fallacy was further exploited to indirectly suggest that a woman is debarred from undertaking the course of Yoga.

In striking contrast to the above, the interpretation of scientific Yoga of a continent life is rather exceptionally broad and elastic, and, for all practical purposes, consists mainly of a dispassionate attitude towards matters sexual and of purity in sex. It *does not bar* a married man—or, for that matter, even a woman—from undertaking the study of Yoga. On the contrary, Vijñāna Bhikṣu asserts that "It is mainly for the householder (*gṛhastha*) that the eightfold path of Yoga is disclosed."[101] In the *Yogabīja*, we are further informed that Yoga can be practised both by men as well as women of any caste or religious belief.[102] Practical Yoga, while considering brahmacarya a necessary requisite —one of the yamas—still holds that, through hygienic and rational adjustments in the married

101 Cf. *Yogasārasaṅgraha*, p. 35; *Śivasaṁhitā*, V, 268.

102 Cf. *Yogayājñavalkyam*, VI, 65; *Haṭhayogasaṁhitā*, VII, 67, 68ff.; *Haṭhayogapradīpikā* with *Jyotsnā*, IV, 15. Also compare the findings in "*Texts Sanctioning the Study of Yoga by Women and their Chronology*" in the journal, *Yoga*, Vol. III, pp. 53, 54 and 67, 68f.

life,[103] it is quite possible to attain all the benefits of Yoga. Svātmārāma, the great practical yoga authority, with a view to upholding the true value of Yoga even under adverse conditions and to broadcasting its universal application, advocates that "anyone can achieve complete success as the yogin, even while living a wayward life (*svecchayā vartamāno api*), if only he or she follows the practice of *vajroli*"—broadly speaking, sex hygiene including a practice for the cleanliness and preservation of the generative organs and virility respectively.[104]

103 According to Manu, a married man may also be considered a *brahmacāri* (celibate), if he observes hygienic sex relations within the marriage bonds. The rules and regulations of such a conduct for the married are discussed in the *Manusmṛti*, II, 49; also *Yogayājñavalkyam*, I, 56.

Scientific Yoga recognizes this with the proviso—that the individual should have already acquired the essential control over bionergy (*jitaprāṇa*). Cf. *Haṭhayogapradīpikā* with *Jyotsnā* III, 80.

104 Cf. *Haṭhayogapradīpikā*, III, 82, 94; also *Śivasaṁhitā*, IV, 79.

A similar passage runs in the *Mahābhārata*, quoted by the author of *Jyotsnā* (IV, 15), which boldly asserts that, "even a prostitute (*vargāvakṛṣṭastunārī*) can attain the highest object of life by following the course outlined by practical Yoga. Contrary to the general misunderstanding, this statement most certainly proves that the study of yoga practices can be undertaken successfully by one and all, i.e., there is no bar against a woman, or even a married woman, or, for that matter, even a prostitute. The practical yoga teacher of the author also gave him to understand that his great-grand-master was a woman, Yoginī Anasūyā, who was an adept in the science of Yoga. Tucci, the authority on Tibetan Yoga, asserts that, in the ancient period, women were proficient in yoga practices and were respected as great teachers of Yoga.

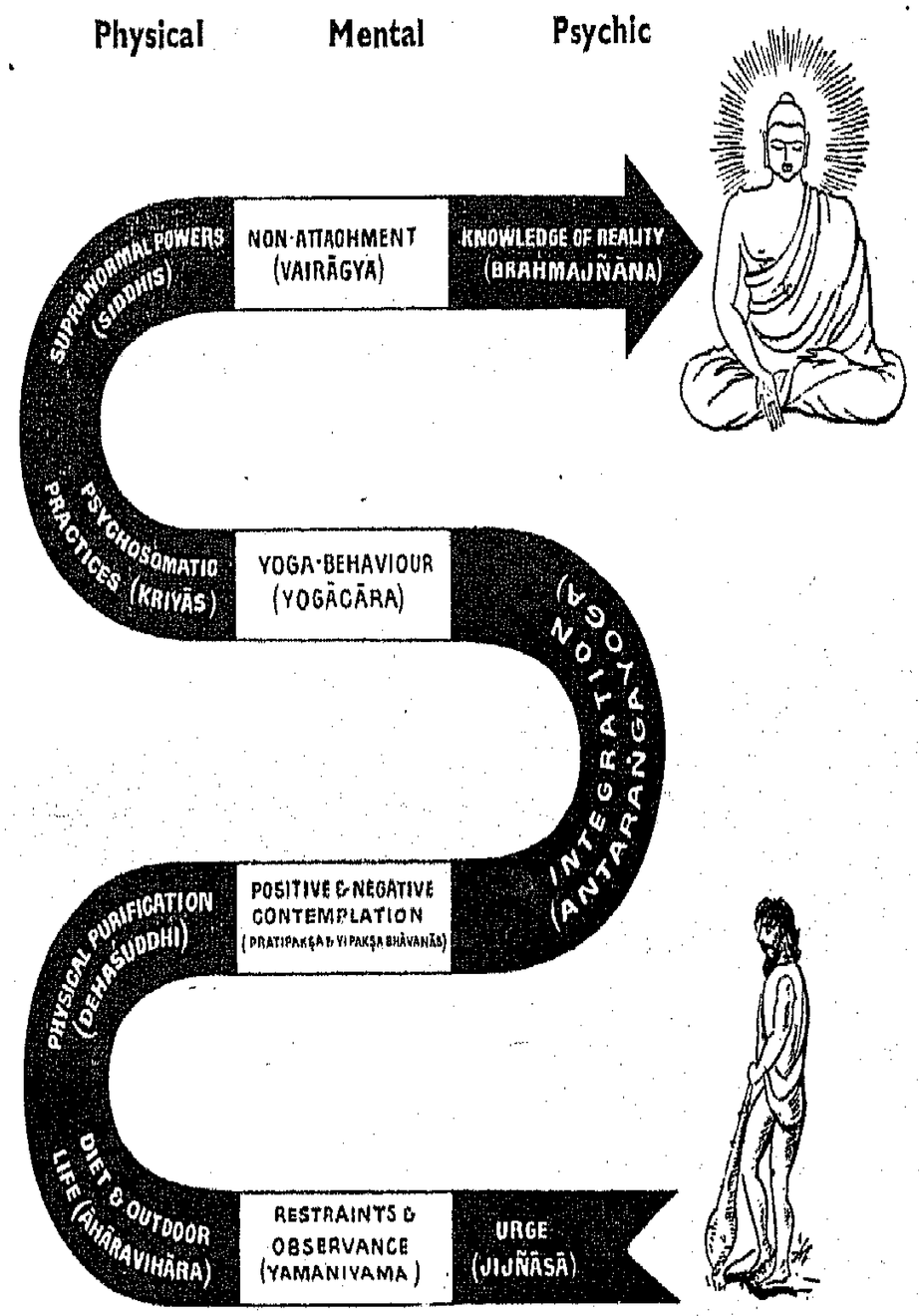
YOGA SEX EDUCATION

The practical suggestions offered by the modern authorities on sex hygiene corroborate favourably and closely the means recommended and followed by the scientific yogins. The points of agreement are: the need for moral and mental hygiene, the daily cleanliness of the external genitals, the emphasis on moderation in diet, the abstinence from stimulating drinks and food, the maximum out-of-door living, the use of light clothing and many similar details elaborated in *Hygiene in General* (ch. v).

Besides these usual precautions and preventives, Yoga recommends (*a*) the daily practice of certain methods which influence the physiologic activities of the sex organs, (*b*) cool baths, (*c*) the irrigation of the genital passages and (*d*) active continence. For diagrammatic correlation, refer to FIG. 9.

(*a*) *Useful Processes*: These consist of *bandhas* and *mudrās*—the higher psychophysical postural exercises, processes and controls. Apart from *vajrolī*, *khecarī* and *aśvinī*[105] are the other two mudrās

105 Yājñavalkya, Gorakṣa, Svātmārāma and others do not refer to this process, may be for the obvious reason that *mūlabandha* closely corresponds to the technique of *aśvinīmudrā*, except for the variations in alternating movements, in area, and in posture which in the case of the former is similar to *muktāsana*. Gheraṇḍa and other later authorities on Haṭhayoga like Yugaladāsa, Buvā, Śarmā, and Brahmānanda have, however, treated asvinimudrā as an independent process. For technical differences between the two exercises and their physiologic effects, refer to *Yoga*, Vol. V, iv, pp. 37, 38f.



YOGA METHOD OF SUBLIMATION

FIG. 9

which are supposed to preserve virility and maintain normal physiologic functions of the sex organs.

Of these, vajrolī is discussed under the last two subheads of this section. Khecarī, however, is extremely complicated and quite unsuited as an every-day-exercise, especially in the case of a layman. Its superficial technique consists in retroverting the tongue, after incising the fraenum linguae and having isolated it from the main body of the tongue, pressing the same deep into the fauces thus causing the entire closure of the rima glottidis—of course, by pressing back the epiglottis with the point of the retroverted tongue. This closure of the main air-passage causes such changes in the intrathoracic pressures as to produce a reflex influence upon the flow of the blood in the genitals—such influence becoming marked during—sexual excitement.[100]

Aśvinīmudrā consists in an effort to simulate the anal action of a mare (*aśvinī*) after she has excreted the bowel contents. This is best performed in any squatting or crouching positions, i.e., in any convenient pose which may allow free movements of the perineal regions. Now, with every exhalation, contract the anus—especially the levator ani, the anal sphincters and the broad ligaments of the perineum (those supporting the muscular fibres

106 The uses of khecarī are manifold, when applied in conjunction with the other processes. In this instance, it is to be practised with the vajrolīmudrā. Cf. *Haṭhayogapradīpikā* with *Jyotsnā*, III, 42.

of the prostrate and the erector muscles of the penis, in the male ; and the muscles of the urogenital region, mainly the transversus perinaei, in the female). Then, after a deep and prolonged contraction, inhale slowly and let those muscles relax completely. This alternate contraction and relaxation of these muscles is termed aśvinīmudrā.[107]

When practised in a rapid succession, it accelerates the blood circulation in the area and further, by its wavelike contractions and expansions through complete relaxation, causes an internal massage to the deeper sex organs. Moreover, it also gives tone to the musculature of the reproductive organs generally, for the very simple reason that it reflexly effects the finer sympathetic nerve endings which are quite elaborate—especially in these regions. Haṭhayoga claims that, with the aid of this mudrā, sexual debility (*guhyaroga*) is overcome in the course of time.[108]

Among the postures. those that have synergic influence on the generative organs are śirāsana, sarvāṅgāsana, urdhvavṛkṣāsana, bhadrāsana, gorakṣāsana and certain other similar āsanas.[109]

107 Cf. *Gheraṇḍasaṁhitā*, III, 82

For details of technique and laboratory and clinical observations, a reference should be made to articles on *Aśvinīmudrā* or Anal-urogenital Action in the issues of the journal *Yoga*, IV, pp. 24ff. ; V, iv, pp. 37ff.

108 Cf. *Ibid*, III, 83. The curative value of this process has been amply demonstrated at the clinic of the Institute.

109 Cf. *Yoga Physical Education*, 7th edn.

Of these, śirāsana and sarvāṅgāsāna have already been described in *Yoga Hygiene Simplified*. Urdhva-vṛkṣāsana and its variants are difficult of practice for an average man and have, therefore, to be omitted here. Although highly useful as a therapeutic measure for stopping too frequent nocturnal discharges (Mādhavadāsa), traditional bhadrāsana is likely to cause dislocation of the ankles or the knees, if not carefully practised in stages or strictly supervised by the master. Gorakṣāsana, while considered identically the same as bhadrāsana,[110] in fact, differs from the former to a certain extent and is much simpler in technique. It is practised thus.

First, join the soles of the feet together, in front of the genitals, with the toes pointing outwards. In the beginning, if the feet cannot be brought near to the body, they may be spread out and gradually drawn nearer each day till they touch the genitals. Now, raise the body by lifting it slighly from the ground with the aid of the arms and then rest the buttocks on the heels—keeping the soles of the feet together. Let the feet cover the seam of the perineum breadthwise and lap the legs, from the knees down, with their respective thighs. With the hands, keep the knees pressed to the ground so as to cause a steady pull posteriorly, varying the strength as desired by a downward pressure upon the knees. See FIG. 10.

110 Cf. *Haṭhayogapradīpikā*, I, 55ff.

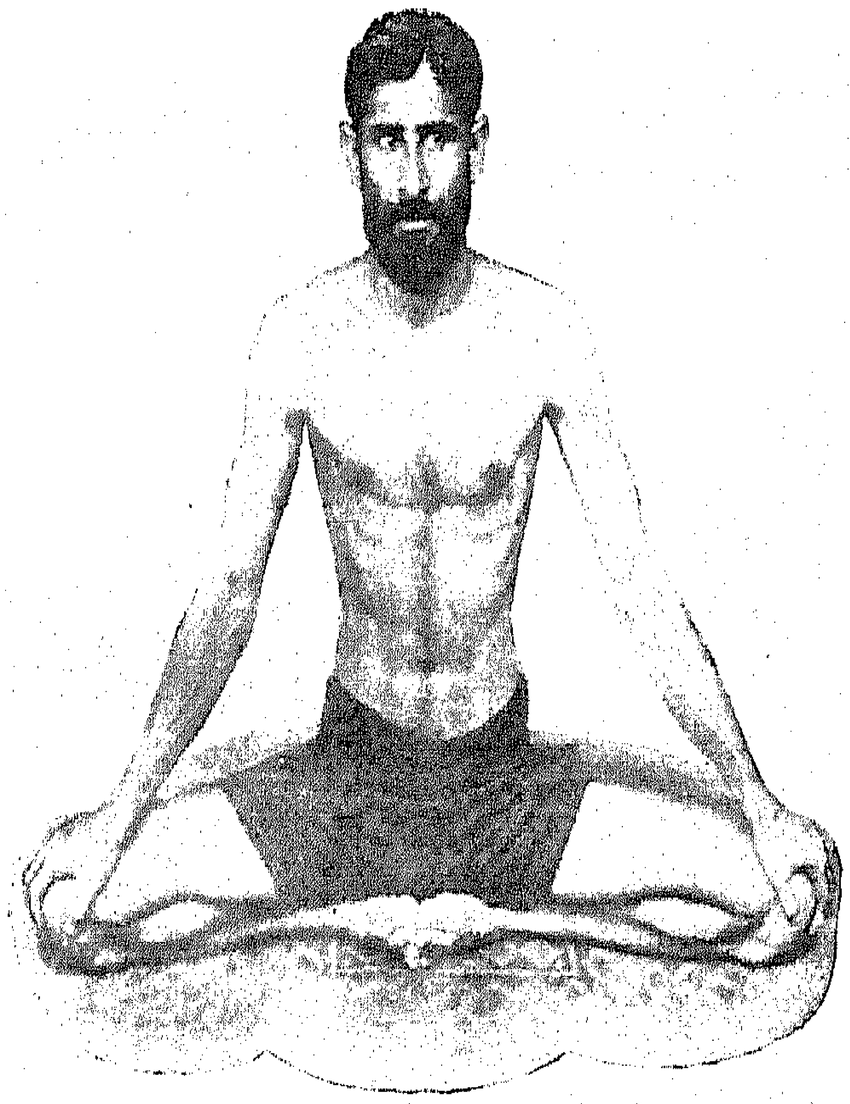


FIG. 10

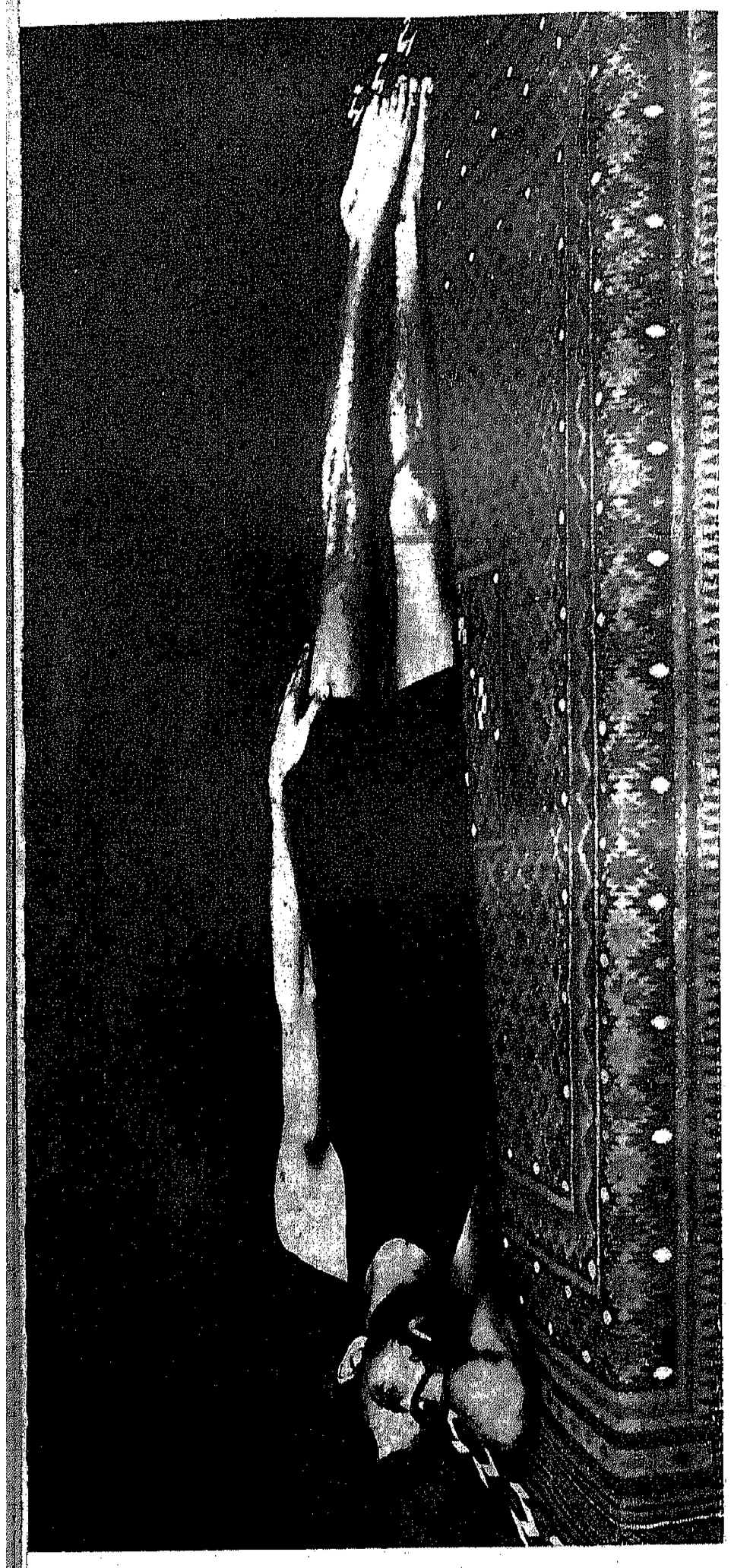


FIG. 11

This posture by acting upon the connective tissues of the groin and the inner side of the thigh indirectly stretches both the superficial as well as the deeper urogenital muscles and thus aids (i) the elasticity of the respective muscular fibres and (ii) the corresponding increase in the interchange of arterial and venous blood during high and low pressures on the knees. Sexual debility which is so common an ailment, principally due to weak constitution or abuses of the sexual organs, can be cured with the aid of such postures as goraksāsana.

One out of every three enquiries received by the Institute concerning health, during the past many years, refers unmistakably to nocturnal discharges and sexual weaknesses following previous habits of self-abuse. The increase of this ailment, especially among the students, is appalling. Personal appeals for suitable remedy on behalf of these unfortunate students reach us from those in charge of the large educational institutions, and in many cases from the suffering students themselves who all average to be of very young age. Individual replies and details of instructions are not possible and hence in response to this appeal, we introduce this subject here again though it has been fully treated in our other publications.

Nocturnal pollutions occur sometimes even in persons of average good health and this symptom in itself may not be considered alarming. Seminal discharge once in two months may be treated as

normal but, when the frequency increases, the same may be regarded as an abnormal condition requiring radical treatment. Usually all cases of night pollutions terminate into sexual debility and have their common origin in weak constitution. The most sensible thing to do is to avoid all stimulants and drugs and to build up a healthy body. General constitutional measures greatly relieve this suffering. This may be aided by a course of yoga training in emotional control through moral and mental hygiene, cleanliness of the genital organs, moderation in diet—especially at night —abstinence from stimulating foods and drinks, out-of-door living, light clothing, and daily practice of āsanas and prānāyāma suited to individual requirements.

As to the breathing exercises, those mentioned previously should be safely practised. Among certain processes may be mentioned the application of mūlabandha, viparītakaraṇi and aśvinīmudrā.[111] As to postural exercises, first follow the head-low hips-high poses to improve the condition of the pelvic organs through complete drainage of the blood vessels. This may be followed up by toning exercises for the accessory muscles of the urogenital and perineal regions. There are nearly eight other postures besides gorakṣāsana and bhadrāsana which may also be safely recommended for practice as a preventive exercise against seminal discharges but the use of all of them at one time is not essential.

111 Cf. *Yoga*, Vol. II, 12 ; Vol. V, iv, 37ff.

It is, therefore, suggested that at this stage gorakṣāsana and simple bhadrāsana[112] may be followed till the other postures are made known.

Incomplete sexual acts as in unsatisfied intercourse or self-abuses and oft-repeated sexual excitements without natural climax and reflexes experienced only during successful coitus and orgasm are probably the worst agents which cause congestion of the internal sex organs through sustained tension and dilatation of the numerous capillaries. Under such abnormal conditions, these congested parts grow weaker and weaker for want of proper blood circulation, and their functions ultimately become so impaired as to set in the strongest reactions which, on the slightest sexual irritation or by anything the least suggestive, cause premature emissions. Consequently, the muscular response also becomes poor, e.g. feeble erections in the male and inactivity of the clitoris and failure of the erectile tissues in the vaginal orifice to produce the necessary gripping in the female.

The other conditions which generally prevail and could be remedied easily are those that arise from inflammation of the inner sex organs. The muscular inactivity could be remedied by muscular movements which is probably the only efficacious method of increasing muscular power—tone, strength and exhilaration. Again, in congestion or inflammation, there is high tension, besides restricted motion and impaired circulation of blood,

112 Cf. *Yoga Physical Education*, 7th edn.

etc., all of which cause marked nervous—through the sympathetic or the vasomotor nervous systems—and functional alterations which are more severe and frequent in women than in men.

These could be relieved easily by drainage of the surplus blood and by the equalized circulation. Aśvinīmudrā not only supplies the necessary muscular movements but also, when practised in coöperation with sarvāṅgāsana, due to the genital region getting elevated above the heart, causes complete drainage—the process being accelerated by the force of gravity. After having thus established normalcy, it is proper to follow up the method of toning the accessory muscles by stretching exercises with alternate contraction and expansion. Goraksāsana is exceptionally suited to this purpose and one may continue this posture as long as it is found convenient. The yoga authorities state that through a faithful observance of the above practices, diseases arising out of inflammation or congestion of the sexual organs could be cured.[113]

(*b*) *Cool Baths:* In advising the celibates and the householders, certain authorities recommend the use of a cool bath (60° to 66°F.) before retiring to bed, to all intents and purposes, for avoiding sexual excitement and nocturnal pollutions.[114] Practitioners in hydrotherapy claim that such

113 Case reports appearing in the journal *Yoga* support this claim.

114 Cf. *Liṅgapurāṇa*, ch. xiii ; *Bhāgavata*, XI, xvii, 25.

baths tone the nervous and muscular systems ; and the beneficent physiologic effects associated with it may, therefore, be relied upon.[115]

(*c*) *Irrigation of Genital Passages :* Just as cleanliness of the external sex organs is useful for hygienic purposes, the internal cleansing of the genitalia is likewise conducive to the highest physiologic good, if performed intelligently and at fixed intervals. The practical yogins who are always extremely particular about the internal cleanliness of their organs have found an easy method of irrigation of the genital passages, a process which, in its highest technique, is termed vajrolimudrā.

Vajroli, however, could be and is practised in various stages, viz., preliminary, intermediate and final. The initial stage consists in introducing a catheter in the genital passage very tactfully, and then drawing in air through the suction and vacuum process of nauli. Retaining the same for some time, it is then expelled slowly from the same passage. This effort at ventilation, air-bath, or oxygenation—whatever it may be termed—is supposed to minimize, to some extent, the danger of putrefaction or decomposition of the internal secretions covering or adhering to the inner cavities after discharge.

115 In preference to this, the author would like to suggest the use of cold hip-baths (50° to 60° F.) accompanied by a warm foot-bath (98° to 105° F.) This keeps the extremities warm and thus maintains favourable circulation in persons with lowered vitality.

In the intermediate stage, instead of the air, the yogin draws in pure water—preferably boiled and cooled—and thus causes irrigation of the genital passage. He or she—for the vajrolīmudrā is common to both the sexes[116]—then proceeds with liquids of higher specific gravity, c.g., milk, honey, and some times even mercury.[117] This with a view to training and habituating the accessory muscles to successfully withdraw and retain the internal secretions of the sex endocrine glands even under sexual excitements—it being known that both honey and mercury are liquids of higher specific gravity than sex secretions.

The cleansing of the genital passage, however, with water—adding any mild antiseptic—is probably the best means of avoiding clogging and infection. Those who are unable to draw in the water through the process of nauli may do well to substitute mechano-yoga appliances, e.g., catheters,[118] douches and sprayers. Although internal cleansing of the genital passage, like all other yoga hygienic duties, is an everyday observance with the yogin, the layman need undertake such cleansing only once a week.

116 Cf. *Strīṇām vajroli* | *Haṭhayogapradīpikā*, III, 85 ; *Haṭhayoga-saṁhitā*, VII, 72.

117 Cf. *Yogasāra*, p. 19. As this process involves risk of blood poisoning, the use of mercury is restricted only to the master yogins who are already familiar with all the other yoga practices—for, in emergencies, they are best equipped to take care of themselves.

118 To avoid dangers inherent in the practice of vajroli, it is strongly recommended that the same should be attempted only under personal guidance of the yogin. Cf. *Yoga*, V, ii, p. 3.

The highest technique of vajroli in its final stage, however, consists in successfully withholding the ejaculations of sex secretions prior to or during the period of an orgasm under sexual excitement, namely, coitus, and thus cause their resorption through the lymphatics.[119] Although apparently similar to karezza, what characterizes this aspect of vajroli is the special training for retention or resorption to which the sexual organs and the nervous system have been so harmonized to precise and favourable reactions and reflexes as conduce to wholesome sex life of both the partners.

For the purpose of ordinary sex prophylaxis, the attempts at the final stage are likely to prove much too complicated and even unnecessary. In fact, the intermediate stage, i.e., water-irrigation of the genital passages is quite sufficient for hygienic purposes, and the best method is to use a common catheter with the usual douching arrangements.[120]

(*d*) *Active Continence*: Even though conflicting views are upheld by many prominent authorities like Munde, Franklin and others who maintain

119 In case, the secretions happen to be ejected, i.e., if an orgasm is experienced, the yogin is advised to withdraw the secretion from the vagina—where it may have become deposited—with the aid of Mādhavadāsa vacuum and khecarīmudrā. The actual technique of resorption of sex fluids is very elaborate and consists of many other accessories. For fuller details, a reference may be made to the succeeding volumes of this series.

120 Apart from vajroli, even for ordinary cleansing, it is advisable to receive proper instructions from a physician or a trained nurse.

that, by disuse of the sex organs, the sex endocrine glands become functionally impaired,[121] it is vigorously maintained by a large number of other authorities like Rosenau, Lipschutz and others that passive[122] continence is compatible with health and further that the sex glands are like the tear glands and the sweat glands in that they do not atrophy with disuse.[123]

Whatever may the diverse conclusions of the modern scientists on the subject of celibacy be, a few things, nevertheless, had been fully realized by the ancient yogins, namely, (i) that the preservation of the internal secretions of the sex glands within the body has the greatest physiologic value,[124] tending to longevity ;[125] also (ii) that such preservation contributes largely towards the acquisition of a strong constitution both physical and mental through the biochemical economy,

121 Fowler, Malchow, Bertillon and others, therefore, suggest that sexual activities should be indulged in at regular intervals to sustain good health.

122 The author regards forced continence, where no occasion is given for sexual excitement or orgasm with a view to avoiding all normal functions of the sex organs, as a mere passivity.

123 Cf. *Preventive Medicine and Hygiene*, p. 86.

124 "The fluids emitted during an orgasm are *not waste material* and their retention would in themselves not be altogether a disadvantage." Cf. *Preventive Medicine and Hygiene*, p. 86.

125 Cf. *Yogarahasya*, III, 136. The ancient Hindu medical authority, Caraka, maintains that the conservation of the sex fluid is positively conducive to good health. Cf. *Carakasaṁhitā, cikitsāsthānam*, XXX, 185.

as the emissions dissociate a fair amount of iron, phosphorus and calcium from the total percentage in blood ;[126] further (iii) that only under the stimulus of excitement, a much larger quantity of the fluid is elaborated and secreted ; and lastly (iv) these extra fluids when re-absorbed—by promoting corresponding increase in the activity of the lymphatics—akin to organotherapy, become transformed into life-energy.[127] What is more, the conditions necessary to fulfill the above objective for conserving energy—in this instance, through the preservation or resorption of the sexual fluids into the system—are the normal physiological contact of the sexes and abundant nutrition to allow the sex glands increased secretion without any compensating loss.

This scientific theory may be simplified thus : That, instead of mere passivity, it is preferable and hygienic to engage oneself in normal sexual activities when necessary—for this certainly causes

126 Cf. *The Internal Secretions of the Sex Glands*, Cambridge, 1924.

127 "We must remember that the sex fluid is the carrier of the life force. During abstinence from intercourse, the sex fluids with their *creative energy* are *absorbed* through the inguinal glands into the organism and increase physical, mental, moral and spiritual capacity and energy." Cf. *Natural Therapeutics*, Vol. II, p. 318.

Poehl's experiments with spermine and the latest treatment with active hormones for producing rejuvenating effects both in the male and female add materially to the above belief. Some authorities hold that one part of semen is equal to many parts of pure blood, and that when absorbed again into the system this fluid is transformed into "*nerve energy*". Cf. *Encyclopedia of Physical Culture*, Vol. V, pp. 2450 and 2468.

less strain and lesser energy waste than what has to be actually expended in self-denials and repressions —remembering that there should be no physiologic loss. This loss, to be sure, is inevitable, if the secretions escape from the body. The yogin, therefore, is quite careful in so far as he allows free secretions just enough for promoting physiologic activities but stops short of allowing the sex fluids to escape, and thus suffers no corresponding loss. On the contrary, he gains much through healthful reactions and resorption of the extra fresh fluids otherwise not available. Nutrition, however, is maintained by a liberal course of milk-diet.

These two essentials of sex life in relation to good health, longevity, and free psyche had been fully recognized by the ancient yogins as the foundation of sexual sanity.[128] Interpreted in rational terms, this ideal of brahmacarya, so far as the practical yogin is concerned, is extremely scientific and significant. It subscribes to (i) the opportunity for successful coitus and resorption, and (ii) ample nutrition. This demonstrates that the yoga masters were not unaware of: (i) the extraordinary influence exerted by sexuality in all its aspects upon both man and woman, (ii)

128 According to the Haṭhayoga authorities and traditions, the two vital requisites to success in yoga sex hygiene—especially for the due performance of the complicated but exceedingly fruitful practice of vajroli—are: (i) a woman behaving as desired and *vice versâ*, and (ii) a liberal supply of milk-diet. It has, however, been admitted that both these are not so easily availed under ordinary conditions. Cf. *Haṭhayogapradīpikā* with *Jyotsnā*, III, 84.

the need and import of hygienic sex relations, (iii) the necessity of normal encouragement and regulation of the sex instinct and the preservation of sex virility, (iv) the value of internal secretions of the sex endocrine glands, and (v) the highest physical and mental benefits which accrue the conservation and resorption of these secretions. The substance of Haṭhayoga directives on sex amounts to temperance blended with dispassion (*vairāgya*).

It is thus and now possible to appreciate that, this code of sex hygiene of the Haṭhayogins, allowing complete and healthy enjoyment of marital relations, with limitations as previously outlined, not only without any corresponding loss but positively with the highest physical and mental gain, is an excellent hygienic ideal and—*if only* the process of vajroli could be made available to and brought within the practice of one and all—solves incidentally the most-discussed topic in modern eugenics, namely, family planning through birth-control,[129] notwithstanding the accidental insecurity inherent in the safe periods or rhythm method (Stone) now officially advocated.

129 When at The Yoga Institute (America) in 1921 for her week-end rest, Margaret Sanger, the pioneer of the birth-control movement in America, took liberty to discuss with the author (assisted by Dr. McSutton, the then resident physician of the Institute) the above aspects of sex hygiene —with a view probably to investigating any possible means known to practical Yoga for rational birth-control—and it was admitted that, if practicable, this *yoga* code of *active* continence would prove to be the ideal solution of that problem.

YOGA SEX HYGIENE

The following table will be found useful in adjusting the necessary time and sequence, in respect of the various practices herein suggested. These exercises should be practised in their usual sequence, repeated for a longer period if necessary. Aśvinīmudrā is best suited for practice at night, just before retiring to bed, but may be performed in the morning if desired. The irrigation of sex passages with water and antiseptics practised more frequently in women will do much towards relieving inflammation or congestion of the sex organs. The use of milk, either pasteurized or sterilized, neutralizes acidity.

ORGAN	YOGA METHOD	FREQUENCY	TIME
The Sex Organs	*Aśvinīmudrā*	Evening only	2 mnts.
" "	*Gorakṣāsana*	Morning & Evening	1 mint.
" "	*Vajrolī* (douching)	Once a week	10 mints.

CHAPTER III

CARE OF THE BRAIN AND NERVOUS SYSTEM

> When the nervous system is relieved of all its impurities, there appear the perceptible signs of success such as the slim and graceful body with that radiant colour of good health.
>
> *Haṭhayogapradīpikā*, II, 19.

The chief physiologic activities which distinguish a man from a brute are those concerning the brain and the nervous systems. While fully realized in its true significance by the ancient yogins thousands of years ago and utilized in formulating the yoga technique for both the body and mind—Hatha and Rāja Yoga—only recently, for at most a hundred years, the correlation of intelligence with the cerebral evolution and especially with the extent of the cortex has become universally accepted. Starling says that in proportion as the cerebrum becomes prominent, the animal is less and less machine like. In the brain of man, this development corresponding with higher intelligence, reaches its most conspicuous rank.

BRAIN AS AN ORGAN OF MIND

In treating of the brain as an organ of the mindstuff (*citta*) it should be made clear that the author uses the word "organ" merely in the sense

that it is part of that vehicle the molecular changes and biologic activities of which constitute the essential correlatives of the various phases of self-consciousness (*citiśakti*). Further the interactivation between *prāṇa and citta*—bionergy and self-consciousness and *vice versâ*—even though wrongly termed psychobiologic parallelism by the modern scientists should not be underestimated or overlooked, as it is the only and by far the best working hypothesis for the physiologists.[130]

Although contemporary investigations were in progress—B.C. 700 to B.C. 200—the practical yogins did not share the belief of the ancient Indian medical science in regard to the origin and seat of consciousness. "In Caraka and Suśruta (as in Aristotle) the heart is the central organ and seat of consciousness; but in [Yoga and the later[131]] Tāntric writings (as in Galen) the seat of consciousness is transferred to the brain or rather the cerebro-spinal system."[132] Even some of the early Upaniṣads like *Chhāndogya*, *Praśna* and others and many non-Indian investigators did not fare better or escape the fate of ancient Indian medical students. Thus, unlike Plato, Aristotle[133] held the heart, not the brain, to be the central organ or seat of the soul.

130 Cf. Halliburton's *Handbook of Physiology*, p. 708.

131 These four words are interposed by the author to make the context of Yoga intelligible.

132 Cf. *Positive Sciences of the Ancient Hindus*, by Dr. B. N. Seal, pp. 218f.

133 Cf. *De Anima*, III, v.

This may be due to two facts (i) that the cerebral hemispheres are insensitive to stimulation and (ii) that the circulation of blood and the reflexes of emotions and impulses are more readily and prominently felt in the area of the heart than elsewhere.

In contrast, from the very beginning, it was definitely held by scientific Yoga that the brain[134] in coöperation with the elaborate nervous systems is mainly responsible for transmitting all impulses, expressions and affects of both the subjective and objective psychology, and thus represents the real physical medium, basis or aspect of all mental activities.[135] It was further held by the yogins that all the activities of a living organism are due to the presence of bionergy (*prāṇa*) and that the process of intellectualization belongs to the power of consciousness (*cittiśakti*).[136] Consequently, the relationship between consciousness and experience and the process thereof is somewhat like this:

The five external senses through their respective physical organs like the eye, the ear, the nose and

134 The notion that the brain is the principal organ of the mind, and that intellectual capacity can be measured by the size of the brain and further that there is a localization of special mental functions in its several parts, is a fundamental position fully realized by Willis, Prochaska, Gall, Spurzheim and others.

135 Elaborate comparative studies of anatomy and physiology of nerves will be available in the proposed *Yoga Psychophysiology*, a volume of this series.

136 Cf. *Kapilagītā*, II, 31.

the skin etc., come is contact with the objects of knowledge, and the feeling-complexes thus recorded are carried by the nerve-impulses (*prāṇavāyus*) to the brain assisted by the five internal senses. "At the first movement of this touch there is an indeterminate consciousness in which the particulars of the thing cannot be noticed. This is called indeterminate perception (*nirvikalpa pratyakṣa.*) At the next moment by the function of the synthesis (*saṁkalpa*) and analysis (*vikalpa*) of the mind-organ (*manas*) the thing is perceived in all its determinate character; the manas differentiates, integrates and associates the sense-data received through the senses, and thus generates the determinate perception, which when intelligized by [the power of consciousness and is associated with the self[137]] *puruṣa* becomes interpreted as the experience of the person."[138]

Scientific Yoga, while recognizing the two distinct operations of the cerebrospinal and autonomic nervous systems, regards them as one whole in which both the activities are closely interwoven (*ota-protaḥ*).[139] Of these, the cerebrospinal system consists mainly of the *sahasradala* (brain) and the *suṣumṇā* (spinal cord) contained within the cavities of the cranium and the spinal column (*merudaṇḍa*)

137 These ten interposed words represent the yoga point of view and have been introduced by the author.

138 Cf. *A History of Indian Philosophy*, Vol. I, by Dr. S. N. Dasgupta, pp. 261f.

139 Cf. *Śivasaṁhitā*, II, 32.

respectively.[140] The autonomic system is largely composed of a double chain of ganglia (*iḍā* and *piṅgalā*) situated on each side—*iḍā* to the left and piṅgalā to the right—of the suṣumṇā and extending from the base of the skull to the tip of the coccyx (*mūlādhāra*).[141] It is also evident that the ancient yogins were quite familiar with the varied forms of decussation (*samāśliṣya*) of the nerve fibers.[142]

The network of the entire nervous system is delicately interwoven by seventy-two thousand *nāḍis* (nerves)[143] apart from the endless but minor nerve-endings and end-organs.[144] Of these, only sixty-two pairs are regarded as of specific importance. Of these latter pairs, however, only fourteen have been considered by the yogins for further investigations.[145] Great importance, especially from the yoga point of view, has been attached to the activities of the three main nerves,[146] viz., the suṣumṇā whereby bionergy functions—as an organ of prāṇa conduction—and the iḍā and the piṅgalā which further coördinate and control all the voluntary and involuntary functions of the human body which the scientific yogin desires to bring under his own volition,[147] and which he ultimately achieves.

140 Cf. *Yogarasāyaṇa*, pp. 78, 79.

141 Cf. *Gorakṣapaddhati*, I, 24, 26.

142 Cf. *Ṣaṭcakravivṛti*, I, 1f.; *Śivasaṁhitā*, II, 25f.

143 Cf. *Śivasaṁhitā*, II, 13.

144 Cf. *Ibid.*

145 Cf. *Yogayājñavalkyam*, IV, 26.

146 Cf. *Śivasaṁhitā*, II, 16.

147 Cf. *Gorakṣapaddhati*, I, 32.

A GREAT TELEGRAPHIC SYSTEM[148]

Strange though it may seem, the practical yogins were not unaware—even at such an early date as B.C. 200—of the exact working of the nervous system. This knowledge is now being corroborated by the modern scientists with very little variation in the fundamentals. How such knowledge was possible to the yogins will be discussed elsewhere. Suffice it to say that the terminology used by them to express in precise scientific terms the activities of the nervous system is indeed remarkable.

For popular understanding, however, the working of the nervous system as conceived by Yoga can be explained in terms of an electric plant, a telephone exchange or—more correctly—a great telegraphic system.[149] Thus, we are told by the commentator Kālicaraṇa that the nerve fibers (*nāḍītantu*) represent exceedingly fine tissues like those of the spider's threads, and these connect all the nerve centres throughout the body like cobwebs.[150] In fact, it is the movement of bionergy within these nerves that sustains all living organism.[151] Death is indicative of the absence of prāṇa.

148 This section is a part *verbatim* of the chapter on Neurology of the book referred to in footnote 135.

149 For similar views, refer to *Hygiene of the Brain and Nervous System*, by Dr. J. W. Courtney, and *The Nervous System and Its Conservation*, by Dr. Percy Stiles, p. 39.

150 Cf. *Ṣaṭacakranirūpaṇa*, I, 2.

151 Cf. *Gorakṣasaṁhitā*, I, 37.

What is significant is that the yoga neurology once again did not share the early speculations of the ancient Indian medical authorities with regard to the manner of action of nerves as mere tubular conduits,[152] but held that these fine nerve fibres are like *electric cables* which transmit the bionergy (*prāṇa*) activating the nerve impulses (*prāṇavāyus*) in a series of electric discharges (*vidyunmālāvilāsā*).[153] This latter view is now acknowledged as being the only correct representation of the action of nerves by the leading physiologists like Tashiro, Bayliss and others.

Two investigators, Crehore and Williams, of New York have recently attracted much notice by their contention that all nerve impulses are actually *electric* in their nature.[154] A practical demonstration, somewhat of this nature, was offered by the author of the present work at New Jersey, U.S.A. in 1921.[155] It has been further maintained by the yogins that the electric discharges which transmit nerve impulses are governed by the positive and negative animal magnetic currents corresponding to the activities of the right and the left nostrils respectively.[156]

152 Cf. *Atharvaveda*, VI, 138, 4.

153 Cf. *Ṣaṭacakranirūpaṇa* read with *Ṣaṭcakravivṛti*, I, 2ff.; also *Yogarahasya*.

154 Cf. *The Nervous System and Its Conservation*, by Dr. P. G. Stiles, p. 40.

155 For a summary report of this demonstration, refer to *The World Magazine*, Sept. 11, 1921, p. 8; also *Yoga for Women*, by Śrīmati Sītādevi Yogendra (awaiting publication).

156 Cf. Ch. VIII, *Care of the Respiratory Apparatus*.

IMPORTANCE AND CONTROL OF NERVOUS SYSTEM

"When we consider," says Courtney, "that it is upon the perfect integrity of the fine adjustment of this delicate and intricate organization, the nervous system, that the healthy functional activity of every other tissue in the body, even to that of the most insignificant secreting gland, depends, we are in a position to estimate the extent to which our physical as well as mental well-being is under its control."[157] According to Petrova, Usurinov and other progressive scientists, old age and death follow as a result of the inefficiency of the nervous system which is continually devitalized by the old age pigments.[158]

Moreover as the sole objective of scientific Yoga is either to gain control of or to restrain the mental modifications (*cittavṛtti*) from taking various forms, and as the brain and the nervous system are the only physiologic organs through which such a mental control is to be gained, it is easy to realize what an amount of elaborate details the practical yogins must have worked out to establish complete mastery over the entire nervous system and the brain. In fact, the practice of Haṭhayoga is directed mainly to the good health and control of the nervous system[159] for it is emphasized that only through the complete purification of the nervous system (*nāḍiśuddhi*)—when the fivefold nerve impulses are

157 Cf. *Hygiene of the Brain and Nervous System*, p. 278.
158 Cf. Ch. II, *Yoga Hygiene Simplified.*
159 Cf. *Gorakṣaśataka*, II, 8; *Haṭhayogapradīpikā*, II, 5f.

made to flow in absolute harmony through the suṣumṇā—is the state of trance-consciousness (*samādhi*) reached.

NERVOUS DISORDERS

Because of the lack of proper understanding about the functions of the sympathetic nervous system, it has become quite common now-a-days, to attribute a lot of diseases to "mere nerves," most of which do not actually belong to the category of nervous diseases. This method of easy explanation, at times, leads to misconceptions with regard to the origin and serious nature of the disease. Of course, having most direct and intimate relationship with every part of the body, even the slightest local disturbance is sure to be felt by the nervous system. Likewise all nervous disorders cannot fail to cause specific functional derangements and, in some instances, it becomes impossible to dissociate their interdependence when prescribing treatment. Yoga therapy is therefore threefold and treats the whole man and not only his body.

Nervous maladies may principally be attributed to mental attitude in life, e.g., pessimism brings on will-failure termed neurasthenia (Fisk and Fisher), vague association of fears and anxieties cause general and nervous debility (Frink), anger contributes to hepatic torpor and indigestion and so forth. From what we now know of this world, it cannot be denied that the curse of modern civilization is nervous strain; and modern life has thus, indeed, increased the scope of nervous

disorders.[160] There are numberless, what are termed, "war neurotics" (Salmon) with whom may be conveniently added the economic, political, social, religious and other neurotics—the people who suffer from mental afflictions for no other reasons whatsoever except having to labour under the unusually heavy nervous strain incidental to the abuse of these institutions. Put together these people and these facts which are unfortunately little known to the sufferers and lesser still to the physicians who treat them for their nerves, and we have a perfect picture of, what we might term, a world full of chronic neurotics. Such suffering, however, can be relieved only by radical and suitable changes and adjustments of the environments which lead to such nervous disorders rather than by engaging the services of a million specialists and physicians to cure them.

Besides such suffering as a result of modern hurry-worry life, poverty and servitude, a large percentage of disorders may also be traced to imagination,[161] the so-called *malades imaginaires* (Lasègue). These diseases are, in fact, not *imaginery* diseases, but they are diseases *due to imagination* and actually accompanied by real functional and psychic disturbances.[162]

160 "As the common communicable diseases are being controlled, infections of the brain, spinal cord and nerves are growing". Cf. *Preventive Medicine and Hygiene*, p. 393.

161 Cf. Ch. Fére's *La Medicine d'imagination* (*Progrès Mèdical*, p. 309, 1884 Edn.)

162 Cf. *Animal Magnetism*, by Binet and Féré, p. 363.

As rightly advised in the *Mahābhārata*,[163] the best cure for such diseases lies in the only recipe that one should not think of them at all.[164]

Apart from these psychic—mental and emotional—conditions, there are a large number of other causes also which produce nervous disorders, e.g., (i) chemical (auto-intoxication, habit-forming drugs, and overwork etc.), (ii) mechanical (local injuries and deformities), (iii) hereditary, and (iv) environmental.[165] Insanity is often due to one or many of the above causes—of course, in their extreme form—which lead to neurosis and psychosis, the condition becoming more and more acute gradually till at last it culminates into a chronic state beyond recovery. If not, it abruptly ends in suicide.

From the experimental work of Abelous, Hodge and others, it would seem that all nervous disorders denote a condition of pathológic fatigue of the entire

163 *Nānucintayet* : Cf. *Śāntiparva*, XII, 205, 1f.

164 Deslon (1780 A.D.) of France appears to have come to the same conclusion, since he says, not unreasonably, "If the medicine of the imagination is the most efficient, why should we not make use of it?" Mesmerism, hypnotism, Christian Science and, last but not the least, Coueism are all different aspects of one and the same thing—the method of curing imagination or through imagination—which, at times, do show good results, especially in the treatment of nervous disorders.

165 What is not yet realized by science is the yoga assumption of another fundamental cause—the auto-inherited potencies (*saṁskāravāsanā* complexes), a new element in heredity which calls for research and explanation.

nervous system and also connote a coëxistent condition of morbid nervous irritability. Malnutrition is also responsible for many cases of nervous disorders, and, according to the data available at the clinic of the Institute, one in every four suffers from this ailment. Nervous weakness, therefore, is nothing short of an outraged nervous mechanism. Nervousness is really the cry of the nerves for better nutrition and care. This is possible only through healthy mental attitude, rest, recreation, balanced diet, improvements of a constitutional nature, and the specific treatment of the spine, etc.

YOGA MENTAL HYGIENE[166]

With this brief understanding of the paramount importance of the rôle played by the brain and nervous system in the carrying on of the vital functions of both the body and the mind and, most significantly, in the ultimate realization of Yoga, it is now easy to appreciate a consideration of the elaborate measures which have been adopted by the ancient yogins for the maintenance of these organs in a healthy state. The first in importance stands the moral discipline and mental hygiene. Of these, the considerations which bear largely

166 A programme of moral discipline and mental hygiene cannot be laid down with anything like scientific precision as the individual growth depending upon religion, law and society etc., is still governed by dogmas. In this section, only a certain aspect has been discussed insofar as it concerns the health of the brain and nervous system directly. An elaborate treatment of this subject will appear in *Yoga Mental Hygiene*, a volume of this series.

upon the physical well-being are: (*a*) education, (*b*) freedom from emotion, and (*c*) concentration.

(*a*) *Education*: This should begin with and govern the prenatal life for it is rightly believed that parental influences are quite marked and shape, to a large measure, the physical and mental constitution of the unborn.[167] The care of the infant, the education of the preschool child, the school boy or girl—during puberty and adolescence—the adult and even the advanced life should be governed by considerations of personality, character, and mental hygiene and the habits so regulated as to harmonize with the basic yoga ideal of immaculate mental purity.

(*b*) *Freedom from Emotion*: "There is certainly, as every physiologist knows," says Ward, "a very close connection between sensation and such various organic movements as those of circulation, respiration and secretion. But in strong emotions it rises into distinct prominence as part of what is called 'emotional expression."[168] When, however, the emotional influences dominate the entire nervous system to the limit of its strength, it is often followed by a nervous shock or disease.[169]

167 Cf. *Not the Disease only, but also the Man*, by Dr. J. J. Putnam.

168 Cf. *Psychological Principles*, by Prof. James Ward, pp. 53, 54.

169 It has been demonstrated by the medical authorities that diabetes (emotional glycosuria) develops in consequence of fear and anxiety (Naunyn and Binger). The degeneration of ductless glands is likewise due to emotional disturbances (Lorand). For example, arteriosclerosis often follows the effects of emotions on

In some instances, it has been found to be even fatal.[170]

Emotion, thus, is a great bodily event working either for, or against, the welfare of the entire organism. The so-called *curve of health* (Holmes) which represents the ebb and tide of the living organism, under average conditions, is largely influenced by the emotional reflexes of an individual. For good health, it is extremely essential, as Myerson points out, to keep a close watch over all changes in mood and feeling which need attention as much as shortness of breath and indigestion.[171]

As a consequence, absolute freedom from emotions which the yogins term equanimity (*samatva*)[172]

the adrenals (Hall and Scott); acromegaly is due to effects of emotion on the pituitary body (Pel); myxoedema through emotional influences on the thyroid (Sajous); and interstitial nephritis through nervous shock affecting the kidneys (Bilz); etc.

170 Cf. Cannon in *American Journal of Physiology*, p. 363 (1916).

171 Cf. Myerson's *Mental Hygiene*, p. 450.

172 And thus sings the poet in praise of Yoga and the yogins:

> "Never shall yearnings torture him, nor sins
> Stain him, nor aches of earthly joys and woes
> Invade his safe eternal peace;
>
> *Light of Asia*
>
> "But harboured there, cannot be stirred or shook
> By any gravest grief, call that state Peace,
> That happy severance Yoga; call that man
> The perfect Yogin!"
>
> *The Song Celestial*

Both the above works—English rendering—are by Sir Edwin Arnold. Cf. *Bhagavadgītā*. VI, 20, 21ff.

is regarded as a prime requisite for the health of the brain and nerves—it being understood that even the less violent emotions do not fail to leave behind a trail of ill effects. It is now widely recognized that mental happiness is one of the biggest factors in promoting good health and longevity.[173] That it is not possible to maintain health of the body and mind without a rigid course of mental hygiene—due to the influence of the mind on the body and *vice versâ*—had since long been recognized by the practical yogins.[174] They therefore formulated a code of moral discipline *cum* mental hygiene, beginning with the first two accessories of Yoga—what in the phrasecology of William James be best appreciated by the term a "religion of healthy-mindedness."[175]

It is imperative for any student of Yoga to practice the code of mental hygiene and moral discipline *first*, even before he is initiated into the actual technique of Yoga. In fact, the yogin's "religion of healthy-mindedness" consists of the ten positive and ten negative virtues known as *yama* and *niyama* —restraints and observances—respectively. These

173 It is one of the nine rules of long life drawn up by leading physicians of seven nations at The Longevity Congress, Vittel, France.

174 "We have emphasized the importance of serenity and poise. These characteristics lie at the very foundation of hygiene of the brain and nervous system. They cannot be attained unless the psychic life is well ordered in all respects with regard to its hygiene." Cf. *How to Live*, by Fisher and Fisk, p. 288.

175 Cf. *Variety of Religious Experiences*, 1902.

are : (i) non-violence, (ii) truth, (iii) non-stealing, (iv) chastity, (v) non-coveteousness, (vi) forbearance, (vii) compassion, (viii) fortitude, (ix) moderation, and (x) purity ; and (i) equanimity, (ii) contentment, (iii) self-confidence, (iv) charity, (v) resignation to the Ultimate, (vi) study, (vii) discrimination, (viii) humility, (ix) introspection, and (x) perseverance.[176] For the yogin, theses virtues of moral and mental life are considered indispensible since the mind becomes pure and steady in proportion to the amount of success and sincerity with which they are observed. In Yoga, the mere knowledge is not enough, but such knowledge has to be put into practice and realized personally. No one, therefore, can claim to be the yogin unless, in the first instance, he is endowed with the above virtues.

(*c*) *Concentration* : To habituate the mind to concentrate its energies upon a given object is *dhāraṇā* or one-pointedness. It is really the eflort of the mind to fix itself on a particular object or thought, instead of allowing it to diffuse its energies in varied directions. The power of concentration and the power of detachment—what the yogins term abstraction or *pratyāhāra*—are nearly related, where the former is always preceded by the latter. It breaks up the strain of monotony and thus helps to avoid mental labour, and consequently the amount of nervous exertion is lessened. Physio-

176 These include the five yamas and five niyamas originally commended by Patañjali together with others variously appended by the later Haṭhayoga authorities.

logists are agreed that the habit of such concentration[177] produces sedative nervous effects alike the deep breathing exercises which are conducive to the health of both the brain and the nerves. Moreover, "the foundation of all success in life—whether physical, mental, moral or spiritual —depends entirely on the power of concentration and this could be effectually developed from childhood by means of systematic training. It is, therefore, essential that there must be concentration in everything which is not mechanical."[178] Concentration in action is a part of Yoga. Begin with *ākāśamudrā* or the symbol for concentration on space. Refer to page 135n.

RECREATION

Occupational therapy recognizes the influence of occupation on health and it has been amply demonstrated that monotony of occupation, industrial or otherwise, leads to nervous disorders and that, in many instances, radical cures have been reported through changes in such occupations (Washburn). The results may be attributed to psychic change of automatous environments or to better physical adjustments by contrast of reflexes. Whatever it is, one thing is clear that any change

177 The western scientists have taken a leaf from Yoga when they state : "It is worth while to pay attention to the way of living and thinking of certain Oriental peoples. Their ideas of seeking longevity and happiness by contemplating on Nature in solitude and by achieving serenity of outlook warrant close investigation by the western peoples." The Longevity Congress.

178 Cf. *Yoga Physical Education*, by Shri Yogendra, p. 120.

in mental or physical occupation for the better, even for a few weeks or a few hours daily, adds materially to the health of the nervous system.

Persons with sedentary habits will find great relief in out-of-door sports, e.g., golf, tennis and cricket etc. Whenever permissible, an out-of-door life accompanied with such hygienic activities as hiking, swimming, gardening etc., may be undertaken with benefit, besides a systematic course of physical training outlined in this work.

The yogin's best recreation consists in the study and love of all that is in Nature where, indeed, the entire being is called into delightful activity with the least possible effort of will—nearly resembling the spontaneity of childhood. It has been found that in such engagements the brain is relieved of its excess of circulation, the nervous system is rested, and the entire man refreshed and renewed.[170]

ART OF RELAXATION

Nothing, perhaps, has been so grossly misunderstood as the art of relaxation. For one thing, relaxation should not be mistaken for inertia; for another, it also does not mean lying in a lazy manner or doing nothing. Relaxation really means rest after effort, more truly, conscious rest after conscious effort. It, therefore, follows that the more perfect the effort, the more perfect is the relaxation.

170 Physiologic benefits derived from the study and love of Nature are many and varied, and these have been outlined—depicting his own experiences—in Dr. Holbrook's *Hygiene of the Brain and Nerves*, p. 198.

The so-called "decomposing" or relaxation exercises suggested by certain French and American advocates of physical culture are, in fact, artistic statue posing—more in the sense of repose than relaxation. Stebbins observes that "relaxation" would mean a complete resignation of the body to the laws of gravity, the mind to nature, and the entire energy transferred to a deep dynamic breathing. The complete relaxation of the voluntary muscles at once transfers the energy to the involuntary parts, so that strictly speaking there can be no such thing as relaxation, except in the voluntary muscles and brain. But this is quite sufficient. This transfer of energy by voluntary action and involuntary reaction produces the necessary equilibrium for the renewal of strength.[180]

Engel quotes from a very old German book[181] a certain important method of relaxation in which the pupil is taught to lie upon the floor, and to withdraw all voluntary nerve force from the extremities and thinking part of the brain, and thus to simulate death. This exercise is very strongly recommended as the beginning of all control of the body and is very ably illustrated by a picture of a man lying limp and helpless.

It may be interesting here to observe with reference to the practice of relaxation that it is a common custom among the nomadic Arabs and the caravan merchants journeying between Sikkim, Berber

180 Cf. *Harmonic Gymnastics*, by G. Stebbins, p. 77f. (1892 Edn.)
181 Cf. *Practical Illustrations of Rhetorical Gesture and Action*.

and Kharatum—immediately they reach an oasis or any other camping place—to at once throw themselves in the shade upon the ground and then to relax completely and voluntarily. Generally, they remain in this position from fifteen minutes to an hour, or sometimes even more, according to the state of their exhaustion. In certain parts of Kashmir—and this the author has personally observed—it is customary for the labourers, who carry heavy loads on their back through great distances and heights, to stop on their way near a stream and lie down in a semi-lifeless state for some time whenever they feel physically exhausted. These mountaineers, the wanderers of the desert, the gypsies and other tribes are able to undertake, when occasion requires, surprizingly long journeys with very little rest owing to the knowledge of the art of relaxation which consists in resting at will.

The ancient yogins, who are known for their self-mastery over the entire voluntary and involuntary organism, were fully alive to the many advantages of relaxation. According to them, relaxation gives the maximum amount of renewed strength in the minimum amount of time. Even more than sleep, successful relaxation is the vital principle of rest which quickly recuperates or regalvanizes, as it were, the nerve centres, collects the scattered forces and thus reinvigorates the whole body. It is just as refreshing as a Turkish or a Russian bath, besides having many of the peculiar therapeutic advantages of a medical massage.

POSTURES FOR RELAXATION

Whenever physical or mental fatigue or strain is experienced, or the mind is agitated, the practice of certain postures which contribute greatly to muscle-relaxation is recommended by the yoga authorities.[182] They are: (*a*) *dradhāsana* (*b*) *śavāsana*, and (*c*) *makarāsana*.[183]

(*a*) *Draḍhāsana*: Draḍhāsana or the firm pose is regarded as the best position for sleeping in which one finds oneself most comfortable. As in Fig. 11, it is practised by lying on the right side of the body in a state of relaxation with the right arm under the head, as if, for a pillow. It has been demonstrated that lying upon the right side favours emptying of the stomach during rest when the peristaltic movements reach their minimum, besides ease in breathing movements (Kellogg). The yogins contend that by sleeping in this manner, dreams and nocturnal emissions are generally not experienced during sleep, digestion is iinproved, and one feels the rest of a prolonged sleep even during a short period.

(*b*) *Śavāsana*: Śavāsana or the corpse-pose is also differently termed *mṛtāsana* or the dead-pose. According to Gorakṣa and other authorities, this posture destroys fatigue and quiets the agitation of the mind.[184] The technique consists in simply

182 Cf. *Haṭhayogapradīpikā*, with *Jyotsnā*, II, 48.

183 Cf. *Yoga Physical Education* (for women), by Sitadevi Yogendra, 3rd edn., pp. 123f. Other postures include *adhvāsana*, *yaṣṭikāsana* and similar relaxing poses for the skeleton muscles.

184 Cf. *Gheraṇḍasaṁhitā*, II, 19.

lying supine with the face towards the sky and the arms at sides with the legs passively extended to their full length. With that palsied sinking feeling as it is experienced during an early stage of collapse or the basal anaesthesia, keep motionless like a corpse and relax gradually every muscle of the body. This can be done in two ways : (i) either by partial, or (ii) by general relaxation, as convenient. Then, stay put, close the eyes as in peaceful slumber, and let normal breathing take its course.

i. In the case of partial relaxation, conscious attention is withdrawn by stages from the sixteen vital zones of the body, by paying attention to each part separately. For the purposes of relaxation, movements of bionergy, and concentration, these parts are termed *marmasthānāni* or the sensitive zones. In partial relaxation, the attention—really, the nervous stimuli—is withdrawn gradually by absolute resignation of will and complete detachment from all conscious activities, in the following sequence : first the tips of the toes ; then slowly moving upwards, the ankles ; the knees ; the thighs (simultaneously with this, the arms) ; the anus ; the generative organs ; the navel ; the stomach ; the heart ; the neck ; the lips ; the tip of the nose; the eyes ; the space between the eyebrows ; the forehead ; and, finally, the brain or *brahmapura.*

ii. In the case of general relaxation, both muscular and nervous, through concentration on the incoming and outgoing breath, however, the

supply of nervous stimuli is switched off from all parts of the body simultaneously and at once instead of by stages. Keep watching the movements of the breath until at last the mind synchronises with the hazy sense of your being. What is important is that the consciousness of physical body should be necessarily and entirely forgotten. When successfully coördinated with deep diaphragmatic breathing in the early stages, it enhances the sedative effects of relaxation on the nervous and, therefore, also on the muscular system.[185] Maintain this pose as long as it is found convenient, but not less than five minutes.[186]

Among the various physiologic benefits derived through this reposing exercise may be mentioned the improvement in the action of the heart and of the nervous and muscular systems. Successful relaxation causes a rapid fall in the blood pressure and the pulse rate. It also establishes evenness of the respiratory activities and reduces strain on the heart. If maintained for more than ten minutes, relaxation tends to much deepened

185 Maxick, Roland and their followers lay great stress upon the importance of absolute relaxation even as an aid to muscle control.

186 Watch a baby sleep, and you will notice the impression of its helpless body upon the soft bed. What it does is merely to leave its weight entirely upon the bed and then resign in favour of gravity. This babylike attitude—as against the tension of even the most insignificant muscle of the body usually experienced by the adult—should be the guiding technique, while practising śavāsana.

respiration, and the lowered circulation in the brain consequently increases tendency to sleep. This has been proved by the experimental data obtained during relaxation in the case of śavāsana following paścimottānāsana at the end of fifteen minutes.

(*c*) *Makarāsana :* Makarāsana or the crocodile-pose consists in lying prostrate with the chest, the abdomen and the front of the body in close contact with the floor—the legs at full length and apart, the arms folded and the head resting thereon.[187]

EXERCISING THE VERTEBRAL COLUMN

Degeneration of the nerve tissues leads to many functional disturbances and impairment of the entire nervous system when neglected ; and this degeneration is usually the result of improper circulation of the spinal cord. "The circulation of the spinal cord," says Goldthwait, "is dependent very largely upon the tone of the muscles of the spine, and it is at once obvious that if the muscles of the spine are weak the circulation in the spinal cord *must* also be weak."[188]

The practical yogins fully realized that, apart from certain indirect muscular effect, the spinal cord never receives thorough exercise during ordinary physical movements. Special measures have, therefore, been adopted by them for exercising the vertebral column. In this instance, they specially

187 Cf. *Yoga Physical Education* (for women), p. 123

188 Cf. *The Body-Posture*, by J. E. Goldthwait, M.D p. 358.



FIG. 12



FIG. 13

favour the stretching and twisting exercises for the spine. Of the many such postures, it is possible, at this stage, to discuss only the two important ones, viz., (*a*) *paścimottānāsana* and (*b*) *matsyendrāsna.*[189]

(*a*) *Paścimottānāsana :* Because this posture stretches out (*uttāna*)—more particularly—the posterior (*paścima*) muscles of practically the whole body, it is termed paścimottānāsana or the posterior-stretching pose. It is also termed Paścimatānāsana from the word *tān* and is practised thus :

Whilst sitting on the floor, stretch out your legs together. Keep them fixed to the ground, stiff like a stick, without—of course, in so far as is possible —lifting or bending the knees. Now slowly incline the body above the waist forward, and gradually bend it down so as to reach out for the toes with the respective hands and fingers ; then hold them tightly. Should this be comfortable, bend the head still further till the forehead finally touches the knees. This position may be secured with ease if the muscles of the waistline are relaxed and followed by a moderate pull on the toes with the fingers. Rest your face there on the hollow between the knees, and maintain this position as illustrated in FIG. 12 so long as it is comfortable.

Except in very rare cases, the first attempts at this posture are likely to be unsuccessful mostly due to inelastic posterior muscles of an average

189 For posture exercises of the spine, refer to *Yoga Physical Education* for men and women published by the Institute.

person—this is more so in the case of those above thirty years. But failure to complete this exercise, as per illustration, need not discourage the progressing student for the adjustments, however, will take care of themselves gradually by working at it every day.[190] If an exhalation is synchronised with the movements while bending the head downward, it considerably aids the process of thorough and easy stretching of the posterior muscles. What may be positively avoided are the jerks and hasty or strenuous pulls which may cause muscle soreness or impair even its full elasticity through injuries known as charleyhorse.

It is quite evident from the illustration that this pose stretches the spine to its maximum length—at an average of about 20 per cent extra over the normal length of the spine in sitting, the measurement being taken from the tip of the coccyx to the bottom of the occiput. This is made possible by a mechanical contour of the spine resembling a semi-circular arch—the only position favourable to maximum stretching—contributing to greater elasticity of connecting muscles of the spine than is otherwise possible. By bringing these muscles into activity, it thus raises their tone and pliability.

190 Those unaccustomed to posterior stretching of the back and the thigh—especially the hamstring, lumborum, sacrospinalis and other muscles—will find it convenient to undertake this posture in parts or follow similar but easy dynamic postural exercises prior to the study of this pose. The "rowing exercise" and yogamudrā recommended in the *Yoga Physical Education* may be tried with success.

Through synergic muscular influence, the spinal cord is activated and the circulation effecting the nerves considerably improved. Also, due to the posteriorly stretched and enlarged lumbosacral vertebral foramina, the spinal nerves arising from this region shew marked improvement in their tonicity and functions affecting the internal organs. Our scientific study of this pose reveals many startling facts regarding its application as a therapeutic measure which have only recently been corroborated by the experiments of Hanflig of Boston who advocates safe mechanical self-suspension for stretching and, thus, enlarging the vertebral foramina.[191]

Among the hygienic benefits of this posture may be mentioned the favourable compression of the abdominal viscera, the loosening of the hamstring muscles, flexing of the glutei, psoas major and minor muscles, besides complete stretching, to a more or less extent, of all the posterior muscles of the body. Although this posture appears simple, it is capable of producing reactions worthy of scientific study.

Recent pseudoscientific attempts by the so-called students of Yoga, like Kuvalayānanda and others, culminating into an array of imposing tables of blood pressure changes during the practice of various āsanas are not only worthless but even misleading. For example, blood pressure changes occur even while you sit down, stand up or lie down; and

191 Cf. *Yoga*, IV, pp. 18ff.

this may naturally happen during yogāsana as it is likely to happen with any physical exercise. What is really important to man and science is the correlated interaction on the other equally important functions such as respiration, pulse and pulse-rate etc. Reference should, therefore, be made to only such data as are obtained during the scientific study of yoga āsanas, and have them charted as graphs, after taking out the average. It will be noted how the reactions on the internal organs differ widely in the case of man, woman, and child of about eight years. Only when such charts are studied with regard to the various āsanas and their implications, is it possible to judge the indications and contraindications of specific āsanas in their application to the needs of an individual. The posture-dosage can then be regulated or prescribed with scientific precision to meet specific requirements of both the students and patients.

(*b*) *Matsyendrāsana* : The twisting of the spine is accomplished alternately on both the right and left sides by bringing into play the corresponding right and the left legs through matsyendrāsana, a posture so termed after the name of the great practical yogin Matsyendra. The special technique, as illustrated in Fig. 13, involves much difficulty. In the beginning, therefore, it should be tried only in its primary stage known as *ardha-matsyendrāsana*. It is practised in two ways as follows :

i. Sitting on the floor, press the right heel against the navel while the leg is folded and the thigh is

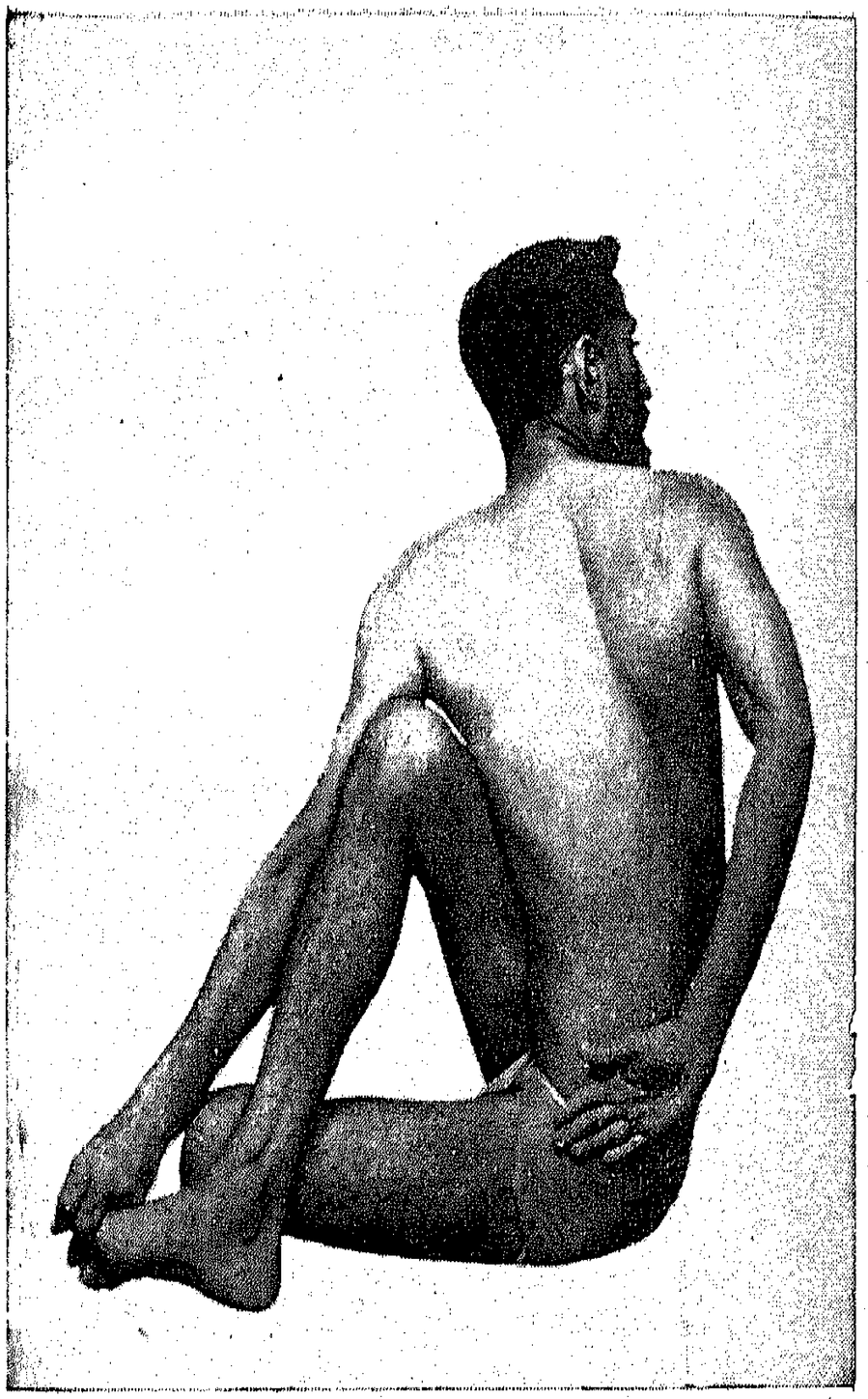


Fig. 14

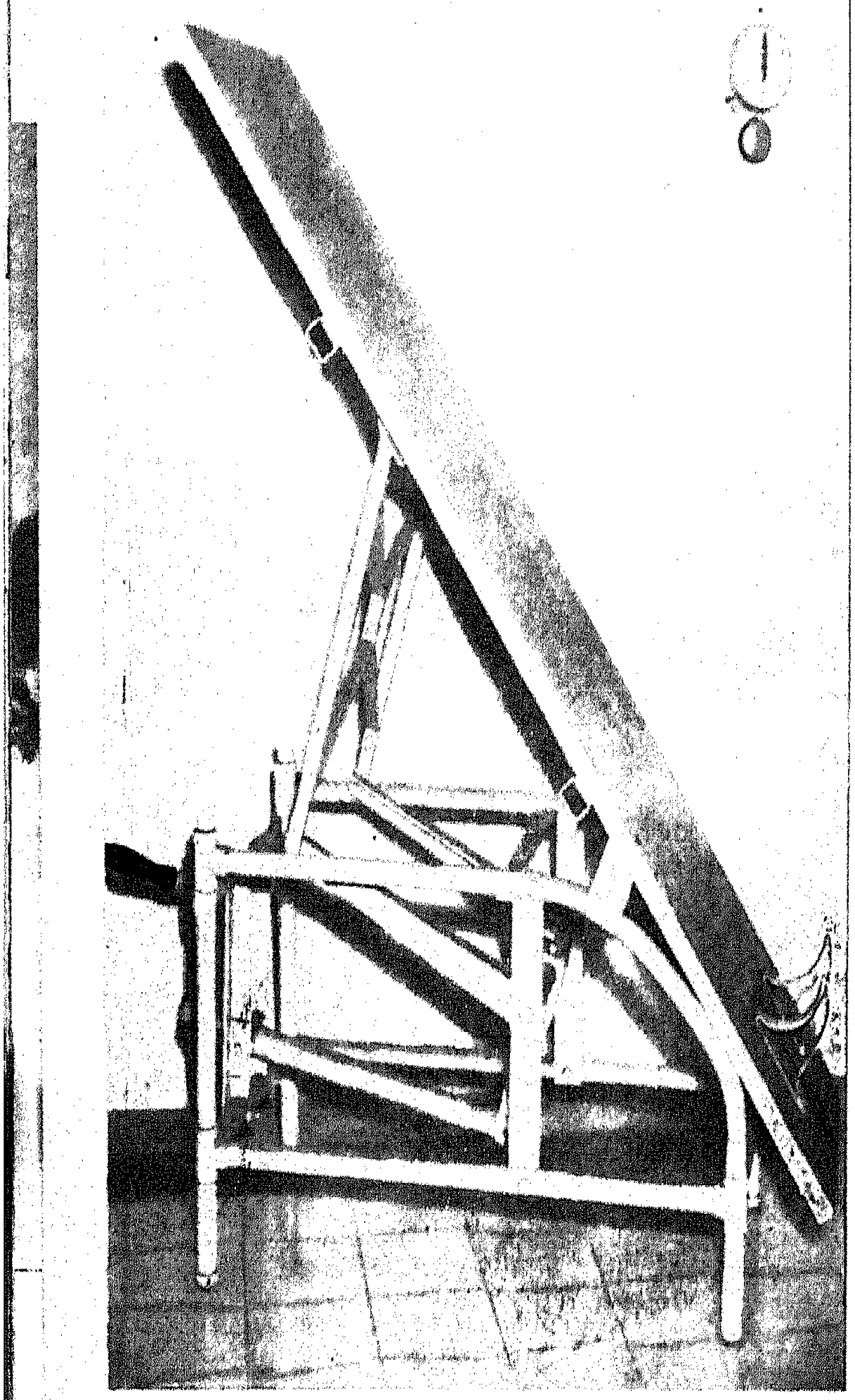


Fig. 15

rested on the ground. As far as possible, do not allow the knee to rise above the ground. Now pull the left leg and press the left ankle against the right knee, heel touching the ground. Interlock by levering the left knee with the right arm and catch hold of the left toes with the fingers of the right hand. Balance the body with the aid of the left hand. Maintain the pose as long as it is comfortable.

ii. Alternately, press the left heel against the perineum and keep the left leg rested on the floor, with the left thigh flat on the ground. Now pull the right leg and interlock it against the opposite knee. Place the right knee under the left armpit, twist the whole trunk laterally towards the right, and catch hold of the toes of the right foot with the fingers of the left hand. With an effort of extreme twist, touch the edge of the left thigh with the right hand, swinging the arm from behind the back and then pressing near the groin. Keep the neck straight but slightly turned towards the right shoulder. This partial mastyendrāsana is not so difficult as it appears in Fig. 14, and a few attempts are likely to end in complete success. Repeat both the above variants alternately, using the right leg with the twist on the left and *vice versâ*.

The physiologic benefits of this posture are very obvious. It is designed to complement the effects of the previous pose through the extreme lateral twists of the spine. It is recognized that such movements of the spine possess great mechanical

advantages, viz., the removal of the lateral curvature of the spine, the correction of kyphosis and other deformities, the improvement in the replacement of internal organs incidental to ptosis and similar other defects. When associated with forced and complete expiration, the very deep pressure heightened by muscular contraction of the abdomen accelerates venous circulation in the abdominal and pelvic zones. Further, the alternate and reverse stretching tends to massage and exercise all the important deep and superficial muscles of the spine, and thus increases the spinal and circulatory activities. When done with ease and relaxation, it loosens up the articulations of the spine, adjusts any subluxations of the vertabræ and thereby relieves the spinal nerves from the pressure consequent upon faulty habits of carriage and daily occupation.[192]

YOGA HYGIENE OF THE BRAIN AND NERVES

Among the other postures set forth elsewhere in this work, there are certain poses which also impart health to the brain and nervous system, e.g., sarvāṅgāsana, śirāsana[193] and dhanurvakrāsana. The incorporation of Yogendra prāṇāyāma and rhythm to these postures enhances their hygienic effects, besides rendering easy the complicated postural movements. Those suffering from circu-

192 Practitioners of Osteopathy, Chiropractics and Occupational therapy may find in this pose an exercise of exceptional value for spinal adjustments.

193 For those who are unable to practice head-low postures, the Institute had designed a special table, see FIG. 15.

latory, respiratory, hepatic, renal, and spinal complications are advised to seek guidance from the authorized teachers. The following table serves merely as a guide in adjusting sequence, frequency and time in respect of the various yoga practices recommended in this chapter.

ORGAN	YOGA METHOD	FREQUENCY	TIME
The Brain and Nerves	*Paścimottānāsana*	Morning or Evening	2 mnts.
,, ,,	*Ardha-matsyendrāsana*	,,	2 ,,
,, ,,	*Śavāsana*	,,	5 ,,
,, ,,	*Dhāraṇā*[194]	,,	10 ,,

194 In the volumes of the journal *Yoga*, preliminary and advanced exercises for concentration have been outlined; and any of these may be followed for the hygiene of the nerves.

Ākāśamudrā is to be practised as follows: Sit in any comfortable posture. Keep the body erect and the neck straight Arrange each hand so that the thumb and the forefinger form a circle, while the other fingers are held straight over each other. Refer to the frontispiece. Now fix your gaze on these hands and concentrate your mind on the open space within the two circles. First silence, then relaxation and then rhythm of void. The distance between the hands and the eyes may be two feet. If fatigue is experienced, the arms may be allowed to rest on the legs. Continue as long as it is comfortable or till the mind becomes steady.

CHAPTER IV

CARE OF THE SKIN AND ITS APPENDAGES

Bathing in the early morning brings on cold, and should, therefore, be avoided by the yogin.

Hathayogapradipikā with *Jyotsnā*, I, 61.

THERE are no special suggestions on this subject, in the practical yoga treatises. It is, therefore, possible to base the essentials of general hygiene only upon an observation of the habits of the yogins with respect to the care of the skin, hair, and nails etc. Modern hygiene has covered this field quite elaborately, and it is needless to enter into very many details of this subject.

The skin is composed of two layers : a superficial thin layer (*epidermis*), and the deep layer (*derma cutis*) which is the true skin. The superficial layer is readily separable, e.g., by the fluid of any ordinary blister, the upper skin is raised. The chief function of the surface skin is to give protection to the true skin below and to maintain its normal softness and pliability. In the epidermis, there is a constant production of new cells taking the place of other old cells which are continually pushed towards the surface and finally shed by the skin. This process of desquamation—in the superficial skin—is constantly taking place, and the hygiene of the skin consists partly in aiding this process.

SKIN : AN ORGAN OF SENSATION

The true skin *is the* organ of sensation ; and the nerve endings and end-organs giving rise to sense-complexes are contained in this. To the yogins, the skin is one of the external organs of perception, *i.e.*, the sense of touch (*sparśendriya*) with the preponderance of earth-elements.[195] Roēhring has well illustrated the importance of the skin as an organ of sense by the statement that, next to sight, the sense of touch is the most important of all the senses. Again, this significance of the skin as an organ of sensation is exemplified by the pathologic conditions which accompany loss of reflex sensibility. Different portion of the cutaneous area, however, according to Goldscheider, present variations in sensitiveness.[196]

Apart from being an organ of sensation, the skin functions in many important capacities, viz., (*a*) protection, (*b*) heat regulation, (*c*) respiration, and (*d*) elimination. The æsthetic aspects of the skin as an aid to beauty are too well recognized both through its delicacy of texture and freshness of colour.

(*a*) *Protection* : The skin acts as a protective organ by mechanically covering the entire body

195 For biochemical classifications of the elements, Cf. *Amaraughaśāsanam* attributed to Gorakṣanātha, p. 5.

196 Cf. *Archiv für Physiologie*, 1885.

and so defending the internal structures from direct exposure, infection or other external violence. In fact, the skin and membrances are the first line of defence. For it is not the dirt or rust that causes infections, but the germs that enter the skin or the membranes. The important thing is that so long as the skin or the membranes remain secure and are not broken, no amount of germs can do any damage from outside. Also by virtue of its being an organ of sensation, it adapts itself to all possible changes and local disturbances and, thus, prepares the entire system for defence.

(*b*) *Heat Regulation:* It is the skin which adjusts itself to variable and sudden atmospheric changes and, to a large extent, regulates the normal temperature of the body.[197] For example, when the surrounding air is much warmer than the body, the vessels of the skin dilate, free perspiration takes place, and by its evaporation, the body becomes cooled. When, however, the air is cooler than the body, the blood vessels contract and retain the warmth of the body by lessening the amount of blood in the skin to be cooled.

(*c*) *Respiration:* Contrary to the popular belief that only the lungs breathe, it may be pointed out

197 Treating of the skin as "a heat regulator", Baruch observes that "this is the most important function of the skin. To the human organism, the maintenance of the body temperature is of paramount importance, and the contribution of the skin to this process is indispensable." Cf. *Hydrotherapy*, by Simon Baruch, M.D., p. 27.

that a respiratory interchange of gases occurs also through the skin. Woods Hutchinson goes farther and speaks even of the "*skin heart*" as the factor in the human circulation.[198] With regard to skin respiration, Bischoff has shown that even while the total quantity of interchange (of air) is very small, the function, however, is extremely essential to the health of the body.

(*d*) *Elimination:* The skin is an organ of absorption as well as of excretion. The process of absorption, of course, is not so important as the process of excretion. This has been recognized as such as long ago as the time of Galen. Of late, it has been realized by the physiologists that the skin is *second in importance* to the kidneys (Picard). The action of the skin, therefore, is a great aid to the kidneys in the process of elimination of toxins from the body.[199] If these systemic poisons eliminated by the organism through the skin are not quickly removed by proper ventilation and bathing etc., they get reabsorbed into the system just as the poisonous exhalations of the lungs during confinement in a dark ill-ventilated room. Many clinical observations go to prove that when this special function of elimination through the skin is impaired, it gives rise to a number of diseases.

198 Cf. *Boston Medical and Surgical Journal*, November, 1897.

199 Baruch, Unna and others further maintain that the most dangerous chemical elements are *really* eliminated by the skin—especially in those diseased conditions in which the functions of the kidneys become inadequate. Cf. Baruch's *Hydrotherapy*, p. 26.

DISEASES DUE TO IMPROPER CARE OF THE SKIN

The most common of these disturbances are: chapped skin, dry and skaly skin, itching skin (*itchmite*), and ringworm etc. These irruptions could, however, be easily remedied by sun, air, and water baths. In chronic cases, it may become necessary to use medicinal powders and ointments. The cutaneous infections and diseases—e.g., measles and chicken-pox etc.—which really call for constitutional and radical treatment are those that come not only through exposure of the skin but through unhygienic conditions in many other respects. Hives, for example, is really an indication of improper diet, notwithstanding the reports of doctors at New York Hospital that it is due to the psychological factor of resentment (Miller).

Lerch suggests that "before commencing [any kind of treatment],[200] it is necessary to thoroughly clean mucous membrane and skin, 'the covering of the body proper.' Both are important organs, which prevent recovery and cause disease, if not kept clean. An abnormal mucous membrane [or skin][201] is an open door to any infection."[202]

NEED AND IMPORTANCE OF SKIN HYGIENE

The special characteristics and importance of the skin have been most poetically epitomized by

200 The interpolation of these four words is for clarifying the context.

201 These two words complete the sense conveyed by the quotation

202 Cf. *Rational Therapy*, by Otto Lerch, A.M., Ph.D., M.D., p. 2.

Hutchinson thus: "A tissue which is like silk to the touch, the most exclusively beautiful surface in the universe to the eye and yet a wall of adamant against hostile attacks. Impervious alike, by virtue of its wonderful responsive vitality, to moisture and draught, cold and heat, electrical charges, hostile bacteria, the most virulent of poisons and the deadliest of gases, it is one of the real wonders of the world."[203]

In many diseases, it is possible even to diagnose the nature of an ailment from the colour of the skin as in the case of jaundice, and this shows most certainly the intimate relation of the skin to the activities of the internal organs.[204] Again, as outlined in the various functions of the skin, it is evident that the skin contributes greatly to our physical well-being and its hygienic considerations, therefore, are as essential as those of the other organs treated in the previous chapters. It must, however, be emphasized here that the hygiene of the skin also involves a number of other considerations, prominent, among which are food, physical education, bathing and the like which have been treated separately in the next chapter.

INFLUENCE OF SUN, AIR, WATER AND MUD ON THE SKIN

Several of the largest sanitariums in the world,

203 Cf. *Studies in Human and Comparative Pathology*, by Dr. Woods Hutchinson.

204 It may be interesting here to record that Father Kneipp, of Bavaria, gave preference to skin examination as his special method of diagnosis. Cf. *Meine Wasserkur*.

namely, at Dresden, Carlsbad, Aix-les-bains, Salins-du-jura, Harrogate, Nantwich and Battle Creek, etc., depend largely upon the curative effects of sun, air and water—and mud applied externally, at times in some places. This adds considerably to the value of skin hygiene. Whether the exact scientific details of skin hygiene as they are known today were known to the ancient yogins or not is debatable. What, however, is certain is that they fully realized the great value of sun, air and water baths, and a casual use of mudpacks for keeping the skin in its healthy condition. Only in recent years have these become the means of successful cure and widely adopted by the physicians who are believers in Nature Cure methods and also by a large number of drugless healers in all parts of the world.

As to yoga skin hygiene, the life of the yogin in the mountains offers him the most favourable conditions for sun and air baths. He exposes his body—all undressed except for the loin cloth—to the sun in the early mornings for two hours between 6-30 a.m. to 8-30 a.m.[205] and retires to the shade when the sun has much greater heating power. This is repeated again in the evening during gardening and other light activities.

Air baths and ventilation are quite common to him for the very simple reason that a large area of his body—except for a T-shaped bandage on the

205 Leonard Hill has demonstrated this to be the safest period for exposure of the body to sunlight. Cf. *Sunshine and Open Air*, p. 92.

loins—is mostly uncovered and the skin is thus constantly brought in direct contact with the atmospheric air. In course of time, this repetition of exposures to temperature—through, what is termed, acclimation—insures the skin to bear and adapt itself to all-weather conditions. Suring and Lode offer us laboratory investigations to show that this adaptation to temperature impressions to a blunting of sensibility to bear heat or cold improves the physical regulation of heat as distinguished from the chemical which is due to tissue changes.[206] The other interesting aspect of the yoga skin hygiene is the occasional use of bog baths, mud packs and mud washes. It has been found that the *black mud* used by the yogins is most soothing and stimulating, a veritable skin tonic.[206]

HAIR AND NAILS

Cleanliness of the scalp is perhaps the most important measure of hair prophylaxis, as the irritation due to dandruff and other causes, many times, gives rise to severe headaches and disturbances of the nervous system. The author is able to

205 Cf. *Archiv für Hygiene*, 39, 1901 Edn.

206 Messrs. Griffin & Co. of Springfield, Mass., (U.S.A.) who imported this variety of mud from India for commercial purposes and placed it in the market in two different packings—the *India Mud Pack* and *Facial Beutifier*—compute that "Experiments have since demonstrated that this mud is chemically much different from the so-called Fuller's-earth and contains to a certain degree some form of *radio-activity* and is, therefore, the superior to anything else for such purpose." Extract from published literature.

suggest from personal experience that cleansing of the hair with the black mud is really more effective than mere washing with soaps or shampooing powders or liquids. The activities of the fingers and palms necessary for the removal of mud also supply the much needed massage and thus stimulates surface circulation by frictions.

The orthodox yogins still follow the practice of rubbing the nails against smooth stones for their removal. The cleanliness of these appendages is thoroughly observed through scrupulous washing of the extremities immediately after any unclean function of the body.

YOGA SKIN HYGIENE

The following table represents the approximate time and frequency for the sun and air baths, and the mud packs and washes suggested in this chapter. These arrangements may be varied to suit individual requirements. During baths, care should be taken to avoid chills or direct draughts upon the body, unless bathing is done in sunshine. Persons with weak constitution are cautioned to shorten the period of mud pack and mud washes.

ORGAN	YOGA METHOD	FREQUENCY	TIME
The skin	Sun bath	Morning only	20 mnts.
,, ,,	Air ,,	Morning & Evening	5 ,,
,, ,, and Hair	Mud pack	Once a week	20 ,,

CHAPTER V

HYGIENE IN GENERAL

For him who has conquered his body through the control over the five elements of Nature, through the fire of Yoga, there is no disease, no old age, nor death.

Śvetāśvataropaniṣad, II, 12.

As an unbaked earthern pot is soon dissolved when placed in water, so the body; it may be strengthened and purified by the fire of Yoga (hygiology), in order to harden it.

Gheraṇḍasaṁhitā, I, 8.

EVEN though scrupulously observed, the mere care of the various organs as previously outlined, is not considered sufficiently effectual by the yogins without a strict observance of certain general matters in hygiene as the air, food, and water, etc. These conditions exert with certainty such marked influence upon the health of an individual that even the slightest variations in respect of air, water, and food, etc., produce abnormal conditions amongst the normally healthy. The well-being of an individual, therefore, is really the totality of the care of all the different and vital organs individually and collectively, plus the necessary precautions in and observances of general hygiene.

There are diseases that attack man (i) through air—from dust, dampness, and poor ventilation, etc., (ii) through food—if not well-balanced, insufficient, improperly cooked or unclean, (iii) through water—when it is dirty, impure, infected, and stagnant etc., and (iv) through many other similar sources which cannot actually be ascribed to neglect of personal prophylaxis with regard to different organs and their purification. These considerations are, therefore, grouped under the common term of *Hygiene in General*, some of these factors forming a part of public or domestic hygiene.

In matters of general hygiene, the yogin, of course, is concerned more about himself than about the generality, and the yoga suggestions in these respects, thus, are principally guided by considerations of personal hygiene. Nonetheless, it is interesting to note that the practical yogins had not overlooked the fundamentals governing hygiene in general. On the contrary, they have given the matter their closest attention and actually succeeded in formulating a tentative scheme of hygienic living which, interpreted in modern terms, may be found both rational and scientific.

AIR

Air is biologically recognized as the first necessity of life, for we may live without food for weeks and without water for days, but we certainly cannot live without air for more than a few minutes. The

question of air supply, therefore, is of greater importance than even of water or food supply, and good ventilation thus becomes the first rule of hygiene. "The most important features of ventilation are motion, coolnees, and the proper degree of humidity and freshness."[207] For independent considerations, these may be classified as (*a*) climate, (*b*) housing, (*c*) clothing, (*d*) out-of-door living, and (*e*) breathing.

(*a*) *Climate*: The yogins favour temperate climate, i.e., neither too hot nor too cold because the extremes of temperature cause physiologic disturbances which they should try to avoid.[208] Also places either too high like mountains or too low like valleys below the sea-level are considered unsuited for the practice of Yoga. Barcroft has pointed out that the partial pressure or concentration of oxygen, as also of carbon dioxide, in the alveolar air varies considerably at higher altitudes and causes exaggeration in pulse rates—a consequent increase leading to activity of the vital organs which the yogins should avoid in order to gain physical control and mental concentration. On the contrary, an increase in the depth of respiration which the yogins strive for is best aided by an altitude sufficiently higher than at the sea-level. Between these two extremes, the yogins, as a golden mean, suggest a place which is neither too high nor too

207 Cf. *How to Live*, p. 7.

208 Cf. *Haṭhayogapradīpikā* with *Jyotsnā*, I, 12; *Mārkaṇḍeyapurāṇa* quoted in *Yogacintāmaṇi*, II, p. 96.

low, i.e., about 1,600 to 2,000 feet above the sea-level.[209]

Besides this, the chief requisite of a good climate is the opportunity it offers to live out-of-door as much as possible. These moderate levels again are best suited to such purposes as they offer uniform temperature (Kellas).

(*b*) *Housing :* Next to climate comes the housing problem. It has an intimate relation to health which can hardly be overlooked since morbidity and mortality are also governed by housing conditions. While considering sanitation in house-construction it is essential to pay due attention to location.[210] It has been observed by Gheraṇḍa and other authorities on Yoga that "the practice of Yoga should not be attempted in a far off country (away from home), nor in a forest, nor in a capital city in the midst of crowds. If one does so, he mars success. In a distant country, one is likely to lose faith because of Yoga not being known there ; in a forest, one is without protection ; and in the midst of a thick population, there is the danger of exposure, for then the curious will certainly trouble him. Therefore, let one avoid these three."[211]

209 These may be termed moderate levels. Pyle considers these levels *excellent* for delicate people and persons engaged in sedentary occupation. The air in these regions is found to be relatively pure. Cf. *Personal Hygiene*, by W. L. Pyle, p. 136.

210 Cf. Numerous quotations from *Liṅgapurāṇa*, *Skandapurāṇa*, *Mārkaṇḍeyapurāṇa*, *Ādipurāṇa*, *Yogatatvaprakāśa* and many others in *Yogacintāmaṇi*, II, p. 89ff.

211 Cf. *Haṭhayogapradīpikā* with *Jyotsnā*, I, 12ff ; *Gheraṇḍasaṁhitā*, V, 2ff.

Further, the requisites of a proper location are that the same should be free and far from rocks, water and fire.[212] "These are sanitary considerations not to be passed over lightly by any one who wants to pursue the arduous course of Yoga. By 'water' is meant dampness ; by 'fire' is meant earthquakes and volcanoes ; and 'rocks' mean jungle habited by insects, reptiles, and tigers etc. The location of the dwelling itself should be of sufficient elevation to admit abundant supply of fresh air and sunlight. According to Yājñavalkya, Svātmārāma and others the approximate size of a room for the yogin is calculated to be about 9 x 12 x 12 feet which would contain the amount of cubic space—an average being taken at 1000 cubic feet after Bergey—required for an adult. A thatched roof of the yogin's hut really secures the necessary dryness by its hygroscopic property in damp weather (dried by free ventilation and sunshine) and thus contributes largely to the stock of infra-red or dark radiant heat considered so essential for the health of an individual.[213]

Curiously enough, while the yogins hold dispassionate attitude towards life, the wealth of natural scenery and gardens, however, has a great attraction for them. Yājñavalkya, Svātmārāma, and the authors of *Nandikeśvarapurāṇa* and *Yogatatvaprakāśa* emphasize that the dwelling house

212 Cf. *Ibid.*

213 Leonard Hill considers infra-red rays and radiant heat as the first requisite towards good health. Cf. *Sunshine* and *Open Air*, p. 24 ff.

of the yogin should be surrounded by the most delicate flower gardens and groves with fruit-bearing large shady trees encircling the compound, and a stream of clear water flowing near the premises. It is further considered essential that at such places Nature herself should be so abundantly beautiful that the eyes of the yogin resting upon such scenery might become calm and concentrated even by the very sight of it.[214]

Constant and natural disinfection, with a view to avoiding insects and germ-laden atmosphere, of such a dwelling-house is thought imperative and ought to be secured through scrupulous cleansing, dusting and smearing of the entire surface with cowdung—a supposedly strong disinfectant in itself serving the purpose of an ordinary whitewashing—every day.[215] To maintain uniform temperature and further to avoid draught, ventilation is secured not through the orthodox design of windows—which are not recommended—but through an entrance-door, mostly kept open at all times, with an easterly exposure.

For an individual, these sanitary considerations of the yoga system of housing, insecticide, and germicide, etc., are quite sufficient, remembering the fact that the yogin is advised to live alone (*ekānte*) and has a separate hut to himself. Rosenau

214 Cf. *Yogayājñavalkyam*, V, 5, 6ff; *Haṭhayogapradīpikā* with *Jyotsnā*, I, 13; and *Yogacintāmaṇi*, II, p. 98f.

215 The air within is to be kept perfumed with incense to drive away mosquitoes, fleas, flies and similar insects. Cf. *Ibid.*

considers the detached one-man dwelling with ample space all around it as *the most ideal housing* for it avoids overcrowding and stands as the best preventive measure against infection and disease.

(*c*) *Clothing*: Modern investigations in air hygiene teach us the need of fresh air and ventilation which really concerns the skin as much as the lungs. The hygiene of clothing, therefore, assumes a new and hitherto unsuspected importance. This includes ventilation freedom from pressure, moderate warmth and cleanliness.[216] The yogins, while generally undressed except for a piece of cloth over the loins—the ideal of modern natural living and Nature Colonies—prefer the use of loose porous garments like the togas and robes, mostly prepared from cotton or silk, in cold and damp weather only.[217] These are always loose and thin in texture, porous, light in weight and easily washable.[218] —carefully washed everyday after they have been used once, and dried in open sunshine. Light colours such as white, yellow and saffron which absorb fewest of the heat rays and most of the U.V. radiations are usually selected for such purposes.[219]

216 Even the early Indian medical authorities were fully aware of the many hygienic virtues of clean clothing. Cf. *Carakasaṁhitā*, sūtrasthānam, V, 92.

217 Kellogg maintains that cotton is unquestionably the best fabric for contact with the skin. Silk comes next for it is less irritating than other fabrics. Cf. *The Health Question Box*, p. 470.

218 Cf. *Śivasaṁhitā*, III, 40.

219 These colours approved by the yogins are now accepted as *the most suitable* for the tropical countries by Rollier.

(*d*) *Outdoor Living*: Except for the periods of meditation and secret practices of Yoga, the yogin passes the rest of his time in the study of Nature and out-of-door pursuits, viz., gardening, growing of vegetables, picking of fruits and flowers, and strolling—long journeys are precluded since they are likely to cause strain, discomfort, and distraction. Science has proved that the air of even the best ventilated houses *is not as good as* outdoor air, and the yogins, spending a large part of their time in open air and sunshine, enjoy the best of health and the greatest longevity.

(*e*) *Breathing*: The interchange of air in ordinary breathing is very poor and a much larger percentage can be exchanged by efforts at conscious deep breathing as taught by practical Yoga. Apart from the oxygen value, it helps to equalize the circulation of blood throughout the body, by bringing into action the unused abdominal muscles. Yoga breathing methods have also a very great sedative nervous effect which tends to mental composure and concentration.[220]

FOOD

The value of dietetics for the promotion of good health and longevity, and also as medicine in the treatment of diseases was fully known in India not only to the yoga hygienists but also to the ancient

220 This subject has been treated in all essentials in a previous volume under *Care of the Respiratory Apparatus*.

medical authorities.[221] Surprizing as it may seem, it is only recently that the modern scientists have found it needful to pay critical attention to this all-important subject of health *via* food. Crile, Friedenberg, Carlson and others have succeeded in proving through laboratory tests that the proper adjustment of diet not only prevents and cures certain diseases but may even help to prolong human life; and further that with a change in diet, it is quite possible to change even the character of an individual.

What has already been alluded to as the fuel-energy of diet (*annapānendhanaiścāgniḥ*)[222] by the ancient Indian scientists has now been acknowledged as the philosophy of fuel-units by Banedict, Hindhede and others; and modern dietetics is based upon this appendix to the already existing knowledge of food values. What is called calory is really the *mātrā*[223] which measures the units of food value available from both solid and liquid nutrients for maintaining body heat and energy. The daily calorific requirements vary with each individual according to the sex, age, weight, occupation and a number of other minor factors. It also varies with the quality and quantity of foods and drinks.

221 Cf. *Carakasaṁhitā*, sūtrasthānam, XXVII, 337ff., 343; and *Suśrutasaṁhitā*, sūtrasthānam, I, 25f.

222 It means "the heat produced by the fuel of food and drink." Cf. *Ibid*.

223 The word *mātrā* is very significant and is definitely suggestive of fuel-unit or calory with reference to the metabolic nutrients (*annapāna*). Cf. *Ibid*, 340f; XXVIII, I, ff.

It has, however, been observed that any food or drink—specified as nutrients—either too rich or too poor in calories and over or below the average requirements of an individual cause physiologic disturbances.[224]

It is thus easy to realize that both (*a*) the quality of food as well as (*b*) the quantity of food play an important part in the well-being of a person and need consideration. The yogins, fortunately, recognized both these issues, and while they may have failed to philosophize the details of analysis in terms of proteins and carbohydrates, fats and minerals, calories and vitamins, they certainly did hand over to us their precious experience of ages on dietetics which, in the light of our modern researches on the subject, may be found scientifically correct—more so, when judged by its antiquity, environments, and apparently non-scientific and metaphysical perspective.

In effect, let aside dietetic philosophy, given an ordinary every day diet—a diet balanced by the individual's natural impulse and preference for quality, quantity, taste and economy—it makes no difference what really the healthy individual eats. Most people need know very little about the ash content of their orange juice, the vitamins in milk, the fat in butter, the calorific value of rice and wheat, or the carbohydrate, protein or mineral contents of vegetables and fruits. The yogins believe that,

224 Cf. *Ibid*; vimānasthāna, I, 2ff.

in the selection of food, man may still profitably heed the dictates of his instinct and experience.

(*a*) *Quality of Food*: The yogins hold, irrespective of their ethical principle of non-injury, that man is really a herbivo-frugivorous animal. That a meat-diet is *unsuited* to human digestion, and that it causes more diseases than a mixed or a purely vegetable or fruit diet has been established through recent experiments. Lusk, Rubner, McCollum and their colleagues have, through their laborious tests and practical experimentations, proved beyond a shadow of doubt that the users of low-protein and non-flesh dietaries *have far greater endurance* than those who are accustomed to the ordinary high-protein and full-flesh or mixed dietary. Similar results have also been broadcast by various investigators in Germany, England, Porto Rico and many other places. Consequently, modern dietitians now advocate most strongly the *exclusive use* of dairy products, vegetables, fruits and nuts as the *ideal food* for man.[225]

Even among the vegetables and fruits, the yogins give preference only to certain varieties which they consider exceptionally valuable to the sedentary mode of yoga living. For this reason, the nutrients which are pure, agreeable, sweet, nourishing and easily digestible become generally recommended.[226] Thus, the constituents of yoga dietetics comprise the following: (i) with regard to the dairy products and

225 Cf. *The New Dietetics*, by J. H. Kellogg.

226 Cf. *Haṭhayogapradīpikā*, I,63; and *Gheraṇḍasaṁhitā*, V, 21, 29.

sweets, the yogin may partake of fresh milkproducts, honey and sugar; (ii) among the cereals, he is allowed to select from wheat, barley and rice;[227] in the leguminosæ, he can choose from Phaseolus mungo and Phaseolus radiatus;[228] (iii) in the vegetables and herbs, he may have eggplant, cucumbers—all the edible varieties—okra (Hibiscus esculentus) and Luffa acutangulla, with a liberal use of fresh green leaves of spinach, sprouts and the five potherbs[229]—more or less similar to lettuce and celery etc.—which are regarded as the best food for the yogin; (iv) among the roots, he should confine himself only to the medicinal or edible roots (certain varieties more or less similar to carrot and beet etc.); and (v) among the fruits, he may have mango, jack-fruit, Anannas sativus, certain types of berries, jujube, fig, plaintain, dates and rose-apple, etc.

No spices are allowed to the yogin[230] as they

227 Cf. *Gheraṇḍasaṁhitā*, V, 17ff. An occasional use of corn is commended by Gorakṣa. Compare his observations in *Saṁhitā* (MS), p. 18.

228 Svātmārāma and Gheraṇḍa favour the use of Bengal gram and white beans, at times, possibly with a view to cover the protein deficit when deemed necessary.

229 These are: (i) Menespermum glabrum or *jīvanti*, (ii) Chinopodium album or *vāstumūlyākṣi*, (iii) Boërhaavia diffusa alata or *punarnavā*, (iv) Amaranthus polygamus or *meghanādam* and (v) Amaranthus spinosus or *kaṇṭhautiya*. Besides these, he is also allowed—according to some authorities—Hingatsha repens or *hilamocikā*, Cassia sophera or *kalakasunda* and Trichosanthes dioœca or *patola*.

230 Cardamom and cloves—even ginger and turmeric—are allowed in the beginning. Cf. *Haṭhayogapradipikā* with *Jyotsnā* I, 62f.; and *Gheraṇḍasaṁhitā* VI, 16, 17ff.

have been found to be stimulating and harmful.[231] Even the use of common salt is considered prejudical to health,[232] possibly because the green and leafy vegetables and other food recommended are sufficiently rich—and, indeed, some of them are exceptionally rich—in mineral salts.[233] It may be pointed out that recent researches by prominent doctors in America have lead to the disclosure that "By taking large quantities of salt, with your food, you may be killing yourself quicker than Nature intended. Chronic heart failure is partly due to a 'perverted diet rich in salt.' The average man consumes each day over 200 times as much salt as what a gorilla needs a day for his weight."[234] Highly seasoned stuffs and stimulating drinks are regarded as unsalutary to the yogin. Things that

231 Recent laboratory and clinical tests have conclusively proved that spices and condiments are not only a burden upon the digestive system but are actually acid producers which poison the blood stream.

232 Salt is looked upon as positively injurious to health and actually unnecessary. Cf. *Haṭhayogapradīpikā*, I, 58ff. It is a known fact that to hibernating animals—bearing in mind that the practical yogin undergoes conscious and suspended animation—salt-water or salt is poisonous or fatal, e.g., the lacerta acquatica (Paul) and the Himalayan marmot. For scientific reasons which preclude the use of salt, refer to the journal *Yoga*, Vol. III, p. 96.

233 "The vegetarian whose daily dietary contains a liberal amount of uncooked fruits and vegetable and only moderate amount of protein and starches, has *no need* and *no desire* for inorganic table salt." For further discussion on "To Salt or Not to Salt", see *Natural Dietetics*, by Dr. Henry and Mrs. Anna Lindlahr, p. 449ff.

234 This disclosure was made known by leading American physicians after long and careful clinical investigations.

are sharp, sour, pungent, bitter and heating are likewise prohibited.[235] Apart from the use of fresh green vegetables and fruits—the latter to be used when ripe—the food that having been once cooked has grown cold and is heated again is considered unhealthy. Again, fried and roasted articles, and foods and drinks deprived of their nutritional values[236] are among the prohibited foods.

From the above list of the yoga dietary and other hygienic precautions, it becomes quite evident that a well-balanced *purely vegetarian diet* is preferred to either a mixed or a full-flesh diet. Its specific advantages are : (i) that it is usually *easily digestible*, (ii) that when selected in a proper combination, it satisfactorily and completely fulfills the average nutritional needs of an individual, and (iii) that therefore it forms *the most ideal diet* especially for those engaged in higher mental pursuits—leading a somewhat sedentary life.[237]

235 Cf. *Bhagavadgītā*, XVII, 9 ; *Haṭhayogapradīpikā*, I, 59 ; *Gheraṇḍasaṁhitā*, V, 23.

236 Alike the ancient yogins, the modern authorities on neo-dietetics regard such stimulating and unhealthy preparations and drinks as non-nutrients, i.e., lacking in essential food values.

237 Cf. *Bhagavadgītā*, XVII, 8. Dietitians are agreed that a purely vegetarian diet diminishes the waste in animal economy—the chief objective of the yogin in personal prophylaxis—for whereas the specific number, indicating waste in a given time, in man living on a vegetarian diet is 1,000 it is 1,445 in the case of one accustomed to a mixed diet and 2,367 in the case of one used to full-flesh diet. Cf. Dr. N. C. Paul's *A Treatise on the Yoga Philosophy*, p. 18.

Moreover, the varieties recommended leave ample scope for selection and combination of the dairy products, cereals, vegetables and fruits etc., all of which have been so chosen as to contain the highest nutritive value, easy digestibility, agreeable taste and medicinal qualities. Metchnikoff, Chittenden and others may find it surprising that the importance of balancing the ration—fat, protein, carbohydrates, cellulose, and organic mineral salts, etc.—whether in terms of calories or vitamins had since long been recognized by the observant yogins, and that the modern investigations in dietetics merely go to confirm their age-old findings to be scientifically precise.

(*b*) *Quantity of Food* : No definite weight can be put down arbitrarily to measure the exact volume of food requirements of an individual, for if it once agrees to the calorific standard, it might be found unsuitable in some other respects. The yogins, therefore, consider it advisable to leave the entire matter to the judgement of a healthy and non-perverted stomach.[238] Moderation in diet (*mitāhāra*),[239] however, is emphasized as the guiding

238 It is thus stated that the yogin may partake of the food *according to his desire*. Compare the exact and uniform wordings both in *Haṭhayogapradīpikā*, I, 63 and *Gheraṇḍasaṁhitā*, V, 29.

239 This is interpreted by the authors of almost all the practical yoga treatises to mean that half the stomach should be filled with food (about 142 grammes at each meal), leaving one-quarter of the stomach-space for water and the last quarter for air. The details in *Mārkaṇḍeyapurāṇa* (39ff.) are quite elaborate. This ratio has also been accepted by the ancient Indian medical, authorities. Cf. *Carakasaṁhitā*, vimānasthāna, II, 2f.; *Vāgbhaṭasūtra*, X.

line, i.e., to eat *no more* or *no less* than what is absolutely necessary to satisfy one's appetite.[240]

Three meals a day are considered sufficient for the yogin. Thus, he may have a light breakfast at 8-30 a.m., his lunch at 1 p.m., and his dinner at 6-30 p.m. Between the intervals of the principal meals, he is advised not to eat anything. Fasting or even eating only once a day (*naktabhojana*) is regarded just as injurious to health as overeating (*ativabhojanam*)[241] or eating before the food has passed through the stomach.[242] The yogin should also refrain from religious fasts and similar observances.

WATER

Second in importance to air, water may be considered a prime necessity of life. Apart from being an essential article of nutrition—even though not classified as such—its various uses for cleanliness make the need for abundant and pure water supply a matter of utmost consideration.[243] The yogins,

240 Cf. *Amṛtanādopaniṣad*, 28.

241 Cf. *Yogasandhyā*, p. 115.

242 *Bkāhāram nirāhāram yāmānte ca na kārayet* | Cf. *Gheraṇḍasaṁhitā*, V, 31. Ordinary food takes approximately three hours (*yāma*), to pass through the pylorus, and it has been clinically demonstrated that anything eaten during this interval disturbs normal digestion.

243 It is needless to emphasize that ill-health and a large number of diseases like typhoid, enteritis, cholera and dysentery etc., are often traceable to impure water. Not only that the use of a better water reduces the chances of gastro-intestinal disorders but it *positively* helps also to avoid, and overcome a large number of other diseases as well (Reincke).

however, have not overlooked this all-important subject. For this, they suggest two measures: first, to select a location not very far from a spring or a river; and, second, to sink a well within the premises of the yoga monastery. Both these measures assure him of unfailing and abundant supply[244] of pure (*nirdoṣa*) water.

As to the purity of water—a really important hygienic consideration—Rosenau observes that "Pure water is a chemical curiosity; it does not exist in Nature."[245] It is a matter of general knowledge in sanitation, however, that both spring water and river water flowing over an uninhabited rocky soil, as a rule, are of a high degree of purity, i.e., free from organic impurities (Hazen). Again, if sufficiently deep, the well water—usually clear and of high sanitary quality—furnishes the safest and most satisfactory sources of supply we have.[246]

The uses of water may be classified as the (*a*) internal uses of water, and (*b*) external uses of water.

(*a*) *Internal uses of water*: The common uses of water are drinking—its use in cooking being secondary—and purposes of hygienic purification. There are no specific instructions in the practical

244 Places where there is not abundant provision for water or food supply are considered unfit localities for the yogin; and in such instances, he is advised to leave such places for a better one where he should finally make his abode. Cf. *Ibid*, V, 5, 6ff.

245 Cf. *Preventive Medicine and Hygiene*, p. 929.

246 Cf. *The Health Question Box*, p. 537.

yoga treatises concerning the quantity of water to be taken each day, the matter having been left to the individual needs subject to natural requirements. Only it has been observed that one-quarter of the space in the stomach is to be kept free at the time of meals for water.

As to the frequency with which it should be administered, it is stated that during meals, the drinking of water is injurious to health.[247] The author is reminded of a certain habit of the yogins which may prove useful to many, namely, before defecation, they usually drink about a pint of water—especially in the early morning at about 4 a.m.—before they begin their daily duties. This might have been done with a view to washing down, as it were, the residues of the alimentary canal by increasing peristalsis, which reached the minimum during rest, and thus by incidentally facilitating evacuation. The *internal cleanliness* which to the yogin is a daily imperative hygienic duty involves the use of over half a gallon of water, taken internally for the purification of the mouth, the nose, the stomach, the intestines, and the bladder.

(*b*) *External Uses of Water:* Chief among the external uses of water may be mentioned the cleanliness of one's person, clothing and things. Excluding the hydrotherapeutic measures for the treatment of diseases which may require a very

247 Modern investigations have demonstrated how water taken during meals or immediately after dilutes the digestive juices and retards digestion.

large quantity of water, the common use of water for personal cleanliness is a daily skin-bath—other than what may be termed internal baths. That a daily skin-bath is extremely essential for health can hardly be denied. It is quite unusual, and is regarded even as very unbecoming, for the yogin to let pass even a single day without having his daily bath. As a matter of fact, he seldom takes his meal without first having his ablution. The time between 7 a.m. to 8 a.m., just after sunrise, is considered most suitable for this purpose. Frequent baths are believed to be injurious, so also are too early baths—between 4 a.m. to 5 a.m.—generally observed by many religious sects in India. Again, cold baths are not recommended; but temperate (78°F.) or tepid (87°F.) baths, i.e., neither too hot nor too cold (*atiśitoṣṇam*) are favoured. Lerch has found them to be the best suited to persons engaged in sedentary habits. Apart from the use of water during a bath, a vigorous rub-down is followed to remove the impurities deposited on the skin. This also aids surface circulation and supplies much needed exercise and stimulation to the body.

ACTIVITY

Hygiene teaches us that it is not possible to live, healthy without engaging one's mind and body in some form of activity. Disused body and mind become atrophied and perverse; and, in due course, may differ—if at all—very little from lifeless objects. Although to all appearances inactive, especially to

outside observers the life of the yogin is really quite busy. His daily curriculum may be divided into (*a*) work, and (*b*) rest.

(*a*) *Work:* Among the mental activities of the yogin may be mentioned study, namely, religious (scriptures etc)., metaphysical (systems of philosophy and other intellectual pursuits), psychological and physiological (investigations in human psychology, anatomy and physiology etc.[248]); and active engagement in concentration and physical culture of a varied nature (therapy, physical education and hygiene outlined in this work, and evolutive processes discussed in other volumes of this series).

His outdoor work comprises gardening, walking—short journeys—and sometimes[249] household duties, e.g., cooking, sweeping, washing of clothes and vessels, etc. Hard work which may lead to a state of nervous or muscular exhaustion either through mental or physical fatigue is prohibited at all times. He is further strictly required to limit his activities only in light pursuits avoiding such actions as might

248 In ancient India, dissection of the body (dead) was more or less compulsory for two classes of people, *the yogins* and the physicians. Thus, the great ancient medical authority of India, Suśruta, says that "the yogin should dissect in order that he may know the different parts of the human body." Cf. Wise's Commentary on *The Hindu Medicine*, p. 48; also compare *The Anatomy of the Tantras*, by V. R. Gandhi, p. 233.

249 The yogin who has a large following is generously attended to for his personal requirements. The married yogin similarly has less of household responsibilities. But the beginner has to undergo much of manual labour in attending to his domestic needs.

cause physical strain or pain (*kāyakleśa*). Prevention of overstrain—unfortunately a very common modern ailment—and monotony is secured by intervals of rest interspaced with varieties of engagements.

(*b*) *Rest:* Two main forms of inactivity, viz., rest and sleep are equally essential as are the usual activities conducive to health. From 7 a.m. till 11 a.m., the yogin is busy with his studies and personal hygiene. Then, an interval of two to three hours, i.e., upto 2 p.m., is utilized to rest, relaxation or recreation. From 2 p.m. until sunset at about 6-30 p.m., he is again busy with his usual pursuits. He seldom makes use of artificial light and passes his late evening hours in deep contemplation, chanting and music. He finally retires to bed at about 10 p.m. and enjoys an average of eight to nine hours of undisturbed and dreamless sleep. Hard bed of straw, a mat of *kuśa* grass, a woolen carpet or a deer skin is generally preferred to soft cotton or feather beds, probably with a view to preserving uniform temperature of the body without any corresponding loss of heat.

TIME

Climatic considerations have also not been overlooked by the ancient yogins, to facilitate the study of Yoga; and it has been observed that the beginning of all yoga processes in certain seasons produce better results than at other times.[250]

250 Not only that initiation in the study of yoga practices during winter, summer, or monsoon be avoided, but also that any

In order, therefore, to receive the full measure of benefit from the yoga practices, the aid of Nature is sought in the form of proper selection of time and season best suited to such an undertaking. Winter —November, December, January and February— summer—May and June—and monsoon—July and August—are precluded as quite unsuited to *commencing* the practice of Yoga, most likely because they represent extremes of climate and too sudden atmospheric changes in the case of the latter. The beginner (*prathamābhyāsinaḥ*) therefore, is advised to start his studies only during springtime—March and April—or in autumn—September and October —when the climatic conditions are usually normal and uniform in temperature.[251]

Leaving aside the needless exercise of ingenuity, the technical expressions in terms of an exact science, the advent of yoga hygieology—its antiquity, evolution and success, its singularly natural methods of self-application and self-treatment as hygienic,

beginning during these seasons may produce even deleterious effects on the general health. Those already initiated in the yoga practices at the proper time and engaged in daily care of the body need not apprehend evil effects. They may, therefore, continue their practice irrespective of the change in season or climate. The precaution hereinabove outlined is principally limited to the beginners, with the definite view to making easy their entry into a new scheme of living.

251 Cf. *Hathayogapradīpikā* with *Jyotsnā*, I, 61; *Gheraṇḍasaṁhitā*, V, 8, 9ff.

preventive, and therapeutic measures, and its invaluable contribution to the mental, moral and psychic health of man—is more than sufficient to convince any unprejudiced humanist of its unique completeness, its universal appeal and value to one and all for endowing personal good health of the body, mind and soul. A little corroborative study in the light of our modern advances in science makes it evident that the entire code of personal hygiene as formulated thousands of years ago by Yoga is based on scientific fundamentals and is profoundly wholesome. In fact, there should be no misapprehension whatsoever about these yoga practices doing any possible harm, if followed out intelligently and in conformity with the instructions given throughout this work.

In the present age of drudgery, nervous irritation, unnatural modes of living and thinking, and the mechanized life of an automaton, perchance the yogin of the genuine type observing all the yoga methods in their essential details remains, for all practical purposes, more a hygienic curiosity than a visual reality far above the standards of modern life and living. Nonetheless he is an ideal of utmost significance to man upholding as he does by his very example the virtue of such concrete measures as lead to good health and longevity. If Yoga succeeds with the yogins in the present as it did in the past, it can hardly be doubted *why any man* following the yoga code of controlled biological living *should not live more than a hundred years.*

Even though strictly individual and self-contained —excluding considerations of public or domestic hygiene—followed only by a selected group of the yogins in its highest technique with regularity, the yoga hygieology literally stands *first* as an ideal of purely hygienic living, If incorporated in the daily duties of an individual, to whatever extent it is practicable or possible, in our modern ways of living, these psychosomatic measures of the ancient yogins are sure to prove useful in bestowing good health, in prolonging life, and in preserving sanity of mind—the main objects of all our sciences and the sum total of all human endeavours.

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ACTIVITIES OF THE YOGA INSTITUTE OF SANTA CRUZ, INDIA

RESEARCH

● As a recognised Research Institute, scholars are accepted for academic, scientific, and educational researches on Yoga. Scholars are placed under competent guides with library and laboratory facilities after their Certificate Course, for a period of one year. On the acceptance of their thesis, they are declared eligible for the membership of the Academy.

ACADEMY

● As a recognized special Training Institute of Yoga, the Academy provides for (*i*) P.C.Y. course of 21 days; (*ii*) C. Y. Ed. special six-month training course (*iii*) Teacher—Member of the Academy. The last course is open to men and women who have passed their intermediate examination or are in a position to conduct yoga centres in their areas. The course provides for theoretical and practical instruction in various aspects of yoga education. Hostel facilities available.

HOSPITAL

● The Institute maintains a highly specialized clinic and hospital for treatment of refractory cases under qualified medical practitioners. Apply for indoor and outdoor fees. General yoga class for minor ailments. Free beds will be available when the Government or others provide for the same.

CULTURE

● The Yoga Extension Service conducts yoga classes both for men and women at the headquarters and at other centres. Trained teachers of Yoga are also provided by the Yoga Extension Service for conducting yoga classes.

The Institute conducts Yoga Education Weeks, Exhibitions, Lectures, Symposiums, Documentary Film shows, Visual Education with Lantern slides, etc. Special arrangements are made for visitors and tourists by prior intimation one day in advance to acquaint them with the various aspects of Yoga Education.

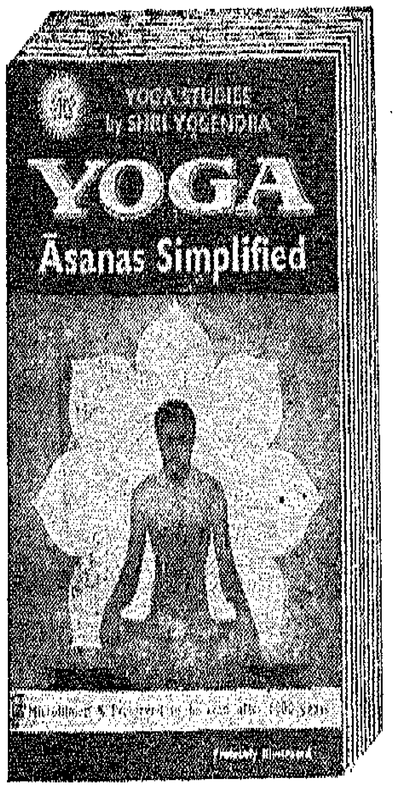
PUBLICATIONS

● The Institute publishes books on Yoga in Library and Pocket editions. Of the two dozen titles so far published only five are at present available, viz. *Yoga Āsanas Simplified, Yoga Hygiene Simplified, Hatha Yoga Simplified, Yoga for Women Simplified* and *Yoga in Modern Life*. The annual subscription to the *Journal of The Yoga Institute* is Rs. 6; 10s.; $1.50 payable in advance.

The Yoga Institute

Santa Cruz, Bombay 55 AS

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YOGA ĀSANAS SIMPLIFIED

THIS is the 12th reprint of the Pocket Edition of one of the most distinguished Yoga classics on education of the physical. For the first time, graded lessons in Yoga from the famous Yoga Institute of Santa Cruz are being published as *Yoga Studies* for the benefit of the masses. The series is intended to guide the layman to study Yoga in the absence of a teacher.

Yoga Āsanas Simplified supplies an ideal course of yoga exercises for daily practice. They are meant for both the young and the old, the healthy and the sick. Written by Shri Yogendra who put Yoga on the map of modern science, the book presents a balanced course of simple yoga postures which are both traditional and scientific. With the addition of two innovations (*i*) of rhythmic breathing during exercise and (*ii*) of dynamic variations of difficult yoga āsanas, the book becomes all the more useful even to the sick.

The book discusses exhaustively the historical development of the yogāsanas, their fundamentals, their scientific significance, and also the comparative analysis of physical education as taught by Yoga in contrast with the modern systems of physical education.

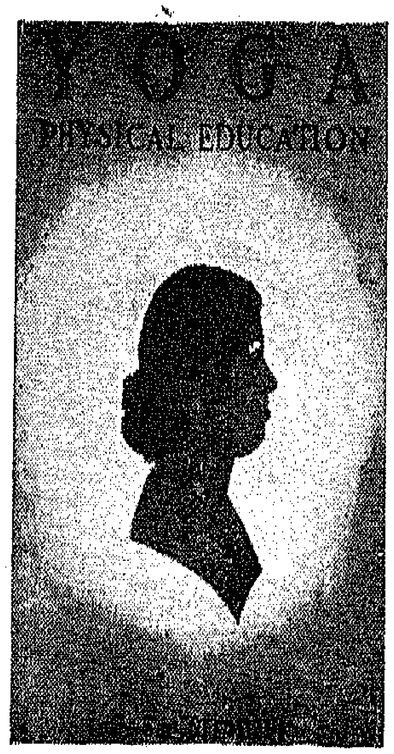
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